Uncovering classroom power dynamics through student drawings

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Underpinned by the classical writing of the pedagogy of the oppressed, this case study seeks to evaluate student mental imageries of power dynamics in the classroom. These were assessed with the help of a classroom drawing activity which was conducted with 60 male and female 13-year old students, who all study mathematics at the same Egyptian school and are governed by the national framework for mathematics instruction. The mixed methods analysis was underpinned by the Draw a Science Teacher Test (DAST) drawing filtration framework. Findings revealed a distant relationship between teacher and student, a subtle sense of student inferiority that over the years seems to have been normalised.

Keywords: power dynamics; classroom; drawing; student mental images.

Introduction

The case of Egypt presents itself as quite a unique platform for studying societal power dynamics (Lampridi, 2011) Originating in a post-colonial educational landscape, the modern Egyptian history has undergone phases of monarchical, Marxist and republican rulership. This in turn, has had its clear impact on the way the lay citizen relates to his/her role as a learner and as a part-taker of the society (Naguib, 2009). In this work, which was formed as a substantial part of my studies at the American University in Cairo, I sought to uncover how the aforementioned societal power dynamics could be seen as rooted in and – at the same time – influenced by classroom power dynamics.

In this case study, I explored how Egyptian mathematics students perceived their role in the classroom, in particular, with regards to themselves, their peers and their teacher. In the following, I start by briefly reviewing some common perspectives from the literature about power dynamics in the educational enterprise and how these, in turn, translate into classroom power dynamics. This leads to a brief outline of the analytical framework that underpins this study. Building on this, I then portray the research design and findings. I conclude by discussing the implications of this study.

The study of power dynamics in the classroom

Questions of power dynamics have been elaborately studied in the educational enterprise for many centuries. In his famous work, “the pedagogy of the oppressed”, Freire (1970) contrasts two imageries of an educational system, that could be argued to lie on two ends of a spectrum. On the one hand, Freire (1970) poses the banking system: a system where knowledge is deposited in students’ minds and is later assessed in a static mechanism of examination. According to Freire (1970), the whole process of depositing and withdrawing information can be compared to a bank transaction. In this setup, students relate to knowledge as absolute and do not become part-takers in the knowledge creation process. On the other end of the spectrum, Freire (1970) also discussed education as a tool for liberation, where learners are

provided with the tools and capacities to become explorers and independent thinkers themselves, thereby creating their own reality and actively part-taking in the creation of their wider society. A similar imagery in relating to knowledge, which preceded Freire (1970) was compiled by Arendt (1958). In her evaluation of the human condition, she distinguishes between multiple states of existence, one of which being the form of the labourer. Taking up this imagery for the case of learners in a classroom, and similar to the banking imagery (Freire, 1970), the learner in the form of a labourer is being trapped within an absolute system. Arendt (1958) depicts another human condition, namely that of the maker. For the case of the learner acting in the form of a maker, s/he is actively participating in the creation of knowledge and the re-envisioning of society and one's role in it. This act is liberating to the learner as depicted by Freire (1970).

In his famous work, the school and society, Dewey (1899/2007) untangles power dynamics in the classroom and argues for these to be, more or less, a mirror to the power dynamics of society. In other words, a classroom where the teacher is considered a source of sole authority is more likely to be situated in a wider schooling micro-culture – and in turn a wider society – where there is a similar form of centrality of rulership. This view was also supported by a number of other scholars (Adolfsson & Alvunger, 2020). Building on this mirror imagery, in this study, I sought to explore how classroom power dynamics are experienced by preparatory stage (13 year old) mathematics students that study the national Egyptian curriculum of mathematics at a local school in Giza.

The use of the arts as a platform to uncover subtle student mental images

In agreement with scholarship (Roosen, et al., 2018), I found the arts as a very suitable platform for exploring subtle student perceptions of power dynamics in the classroom. Researchers advocated for the arts as a platform for exposing subconscious imageries one has about their relatedness to a contextual reality. This is particularly relevant, when participants are young and vulnerable and hence more likely to feel intimidated to directly express how they relate to their learning experience to an external researcher (MacPhail & Kinchin, 2004). For a study of one's relatedness to classroom power dynamics, it seemed, hence, quite suitable to use the arts as a platform for student self expression.

In their work of using the drawing imagery to uncover how science students related to their daily teaching and learning reality, Thomas, et al. (2001) have adopted and validated the "Draw a Science Teacher Test" (DASTT), a drawing platform to uncover student mental imageries of their learning experiences. This platform was adopted around the world with a large number of students, in an attempt to uncover how students related to their science teacher. Focusing on the field of mathematics, Picker and Berry (2000) have adopted a similar test, namely the "Draw a mathematician test" (DAMT) to explore students' mental images of the mathematician, more generally. This test has been adopted with more than 500 students across five European countries and has revealed many stereotypical associations students had to the role of a mathematician. A drawing activity does indeed seem to lend itself as suitable for the study of mental imageries around the teaching and learning of mathematics (Makramalla & El Deghaidy, 2020).

It is out of the scope of this paper to present the respective drawing platforms in elaborate detail. In brief, the activity involves asking students to individually make a drawing in response to a given prompt. Student are given an open space to draw and

as much time as they need. Students are also encouraged to add one line describing their drawing. Depending on the prompt used for the drawing activity, a qualitative filtration system, recorded in the literature (Picker & Berry, 2000; Thomas, et al., 2001), aims to translate each drawing into a quantitative account, which identifies how the drawing relates to multiple strands of classroom power dynamics (such as student centredness, teacher authority, teacher intimidation, peer work etc.)

In this case study, I chose to align myself to the aforementioned analysis tool in exploring mental imageries Egyptian mathematics students had, in view of their daily teaching and learning classroom reality. The research question that I seek to explore for the scope of this paper, is therefore: "How can student drawings inform us about how Egyptian students relate to their mathematics teacher? "

Research Design

This single case study (Yin, 2014) took place shortly after the Egyptian revolution at a local school, which adopts the centrally governed national Egyptian curriculum for mathematics instruction. The school is located in Giza and can be classified – according to local standards (El Gilany et al., 2012) – as moderate in terms of its socio-cultural positioning. The school caters for male and female students. The participants of the study consisted of 60 – 13 year old mathematics students, studying the national curriculum of mathematics in preparation for the national mathematics examination.

The data collection took place inside the classrooms. Students were prompted to "Draw a mathematics teacher". While legal guardians and the school leadership were aware of the rationale underpinning the drawing prompt, students were unaware at the time of the drawing, that their drawings were to be used for research purposes. This setup was agreed on with the school and the legal guardians so as to alleviate pressure or bias off the student drawing products. It was also approved at the Ethical board responsible for the study, provided legal guardians were made fully aware of the drawing activity. The drawing sheets were color-coded to delineate the gender of the student and the respective classroom that they were part of.

For data analysis purposes, I adopted a sequential double filter integration methodology, taking up the filtration tools for uncovering mental imageries students had of a teacher, more generally from the DASTT framework. This filtration was then complemented by a second layer of the DAMT filtration framework to explore the mental imageries that related to the study of mathematics, as the subject matter. The analysis was based on a mixed methods methodology, which yielded numeric results, that in turn, were based on an elaborate qualitative investigation of the student drawings.

Findings

The filtration of student drawings followed a number of strands, each exploring one aspect of classroom power dynamics. For the scope of this paper, I report on one main strand, namely the element of perceived teacher superiority. While this element can be traced down through multiple drawing filtration factors, I choose to focus on one particular drawing filtration element that seemed to be repeatedly re-occurring in almost every drawing where the teacher was not depicted on his/her own. The element in the drawings that I would like to zoom into for the scope of this paper is: the depiction of teacher size relative to the depicted student size.

Most drawings, where the student chose to include himself/herself in the drawing together with the teacher, showed traces of an imbalanced scheme of sizes. Figure 1 presents a copy of the most common depiction, that relate to this particular element (teacher size).

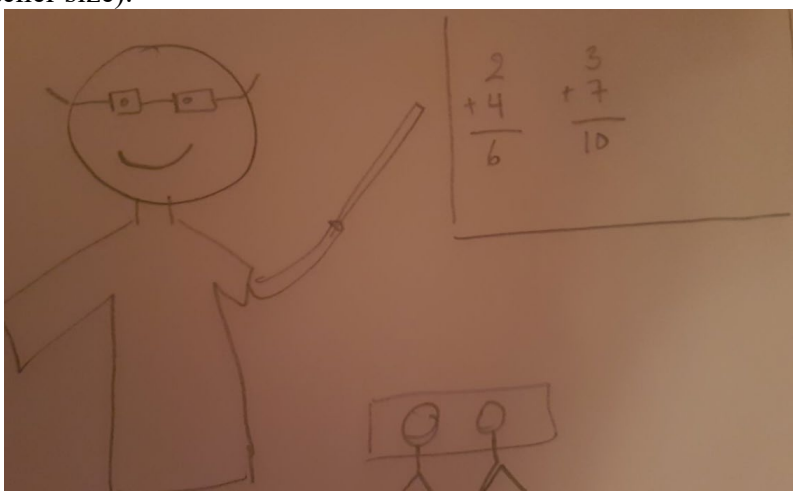

Figure 1. Egyptian student depiction of mathematics teacher

As depicted in Figure 1, the teacher is drawn at least five times the size of the student. This finding was quite dominant in most drawings where the students included themselves along with the teacher in the drawing. This is, however, not an uncommon finding. Literature (Picker & Berry, 2000) reports that amongst the student drawings received across the aforementioned five European countries, it is mostly common that students would depict an imbalanced teacher-student size imagery. Figure 2 shows more examples of such depictions from the European context.

Figure 2. European student drawings of a mathematics teacher (Picker & Berry, 2000, pp.75-77)

While it is out of scope of this work to present an in depth comparative analysis of this particular drawing filtration element (teacher vs student size) across different teaching and learning cultures, the depictions of Figure 2 were added to add perspective, showing that across cultures it seems quite typical for students to

mentally relate to the teacher as much larger than them. The element that, however, is quite a-typical and seemed very unique to the Egyptian context is the teacher being indeed drawn as much larger in size but nevertheless being depicted as smiling.

According to other findings in other cultures, where students depicted their mathematics teacher as much larger than themselves (Picker & Berry, 2000), it was quite typical that a depiction of the teacher as much larger than the student in size would be accompanied with other signs of student intimidation, such as the teacher frowning or threatening the student (as depicted in Figure 2). The case study in the Egyptian classroom shows, however, that in all cases where the teacher is depicted as proportionally much larger than the student, the teacher was also depicted as smiling. I discuss possible implications of this finding, in light of my contextual understanding of the historical evolution of power dynamics in the Egyptian educational enterprise (Makramalla & Stylianides, 2019) in the next section.

Implications

According to Picker & Berry (2000), the student's depiction of out of proportion dimensions is usually an indicator of a perceived imbalanced relationship, in this case a perceived superiority of the teacher. This also implies a perceived inferiority on the student side. In other words, the student perceives himself/herself as subjected to supreme authority that is much larger than them, that is all knowledgeable and that therefore should be followed. This relates back to the banking system, referred to by Freire (1970) or the self perception as a labourer in a larger system, as depicted by Arendt (1958).

At a first instance, one might note that the mental image a student has of a teacher smiling could be indicative of student wellbeing. Drawing a teacher who is smiling could be an indicator of a sense of comfort the student feels when being around the teacher. A deeper understanding of the evolution of the school governance mentality in the modern Egypt (Naguib, 2009; Makramalla & Stylianides, 2019) could, however, lead us to translate the smiling feature differently.

The teacher is depicted as much larger than the student, hence indicating teacher authority and superiority in the classroom. This superiority seems to have been, over the years, normalised to the extent that the student does not seem to consider it as a disproportionate situation. Psychologists refer to this partially as the Stockholm syndrome (Kuleshnyk, 1984), that is a situation where supremacy of governance has been so normalised, to the extent that sub-ordinates relate positively to their figures of authority. The superiority-inferiority dynamic, referred to earlier, has been so normalised in students' mental images to the extent that it is considered the normal behaviour of a good and happy teacher. From their own drawings, students seem to also be at comfort with this banking system and their position of inferiority within it.

This study re-emphasises the value of a simple drawing exercises, presenting themselves as powerful tools that educators and researchers can use to uncover quite complex forces in classroom power dynamics and how students seem to relate to these. Specific to the Egyptian mathematics teaching and learning context, the study seems to indicate a culture of normalised imbalance of power dynamics. This finding could be further confirmed by more in depth investigations at the particular school. Future researchers could build on this preliminary finding in studying power dynamics in the school microculture as a whole. The findings also raise a flag about a normalised imbalanced learning setup that does not promote creativity. This should be

considered by stakeholders of the school and to mathematics teachers, operating in the centralised national mathematics teaching and learning system more generally.

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