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Bridging the Theory - Experience Gap: An Educational Approach of Epistemological Issues through Theatrical Expression

Vasilis Tselves, Antigoni Paroussi



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Vasilis Tselfes, Antigoni Paroussi

Abstract

This paper focuses on the issues of an epistemological or ontological nature that appear when theoretical representations try to project their logically-structured truth by means of theatrical expression. The question we investigated is what would happen if student teachers were asked to choose an empirical fact, decide on a theoretical representation relating to it and then try to theatrically show the tension that is created when experience and theory start to converse.

A total of thirty-three Early Childhood Education student teachers participated in the project, in the context of an interdisciplinary course on Theatrical Expression and Science Education. The students worked in groups for more than 13 four-hour classes under the direction of two teachers.

The results of the seven theatrical studies gave rise to five different paths through which the different types of tension between theory and experience were showcased. The dominant trends that emerged tended to be those presenting the issue of a theoretical approach either as an empirical narrative or as an ideology immersed in empirical contexts.

Key words: *epistemological issues, theatrical expression, theoretical representations, student teachers*

1. Introduction

Theoretical scientific representations are the “offspring” of literate culture (Ong, 1997); they are immutable only within the systems of specialised codes (e.g. mathematics) that support them, and speak with absolute clarity only to those who know and use the codes. Transformed where relevant, the same theoretical scientific representations can be “translated” into other dialects and used for other purposes: in philosophy, in history, in sociology, in politics and, of course, in civic education. In all events, though, these representations do not cease to be theoretical and hence speak about non perceptible realities of the world (Craver, 2008). The incontestable force of these representations lies in the fact that any understanding of them whatsoever signifies the ability of the person who understands to anticipate that it is possible for a multitude of empirical facts, which are compatible with the theory, to occur; consequently, according to his/her objectives, this person sometimes ends up seeking to make them happen and at other times is simply content to observe them as such (compatible with the theory). In other words, a theoretical representation of the world can guide a great number of alternative interventions and representations that tend to change the world or to show a particular aspect of it.

However, things seem to have changed. It is not a propitious time for theories. The Internet content, which is read and written in huge volumes by our students, but also by many others, is composed of short narrative texts and images which do not offer any information at all about the elementary structure of the theory that is possibly behind them. The presenters of discussions/debates on television interrupt the speakers when they ramble on about theories. Even policies are now presented through narratives, giving the impression that only goals, purposes and means for implementing them are behind them, which are not guided by theories. The evaluations that are carried out and advertised in every field of social and professional activity are cumulative/final. In other words, they compare the outcome of an activity to its objec-

tives. They are not formative, in all likelihood because they need a theory in order to be carried out; and the assessments carried out with more than one intermediate stages of cumulative evaluations are certainly not formative either. In the field of natural sciences, the production of theories (the basic research) now takes second place, as if we were living in the late 19th century again, when the arrogant view that we knew everything prevailed. The evidence-based methodological choice tends to dominate all fields of the applied sciences. The era of secondary orality (Ong, 1997) appears to be here.

From the outset, therefore, our project, where the students would have to choose an empirical fact, identify the theory that predicts or interprets it and then highlight the tension that is created when the fact and the theory start to converse, was considered as challenging. We feared that the theatrical context's narrative structure would favour the empirical fact (easily represented through storytelling) and would shroud the theory in silence (which usually resides in declarative speech structures). However, this is a problem we face, possibly in a less overt manner, at every step of the venture corresponding to the implementation of the Theatre and Science in Education research programme (Tselfés & Paroussi, 2015). Obviously, we had to try it out in its explicit version as well.

2. Organisation of the activity and methodology

The activity involved 33 fourth-year students of the Department of Early Childhood Education of the University of Athens (NKUA), divided into seven groups, who chose to attend a semestral course on Theatrical expression and Science Education.

At the very beginning, the teachers presented the course's reasoning. Each group then chose one of the, at least in the educational arena of general education, well-known theories and was tasked with studying and presenting its basic points in a formal and structured manner (with slides and speech). After the discussion and comments that followed the presentations, each group was responsible for elaborating a theatrical study that showcased the narrative of certain facts whose relationship to each theory creates some sort of tension; a tension that was mandatory in order for their theatrical creation to present an adequate aesthetic aspect (Kharkhurin, 2014).

We agreed that, as regards the theatrical part of the studies, the productions would be carried out with animated pictures. The art teacher trained the students in the technique of composing photographs, which could be produced directly from the environment (human or non-human), from sketches/figures, or from three-dimensional plasticine constructions. This was then followed by building scenarios, creating storyboards, trials, comments, new trials, revisions and so on, until the end production, which was a short film made by each group. At the end of the classes, an evaluation session of the overall project was also held. After the evaluation phase, the students had to write up and hand in a formal 2,500-word scientific text, where they presented and justified their production within the framework of the central question, standardising it methodologically as a case study.

Our data consisted of the slides of the initial theory presentations made by each group, of the final studies (animation film) and of the end assignment, the group case studies. In order to produce our results, we analysed the following:

- a) the initial theory presentations of the groups with respect to their content, so as to determine whether and in which directions these modified the bibliographic data;
- b) the end productions, in terms of dramaturgy, so as to establish whether the studies truly created a tension between empirical facts and theoretical representations, with what -possibly- systematic ways these tensions were created (wherever these were created), and which technical issues required particular attention to the semiotic and aesthetic handling of the animated picture;
- c) the group end assignments as regards their content, so as to ascertain the ways in which the students approached the theoretical representations in the theatrical narrative context and whether the technical issues of the production had been identified by the group members.

The overall aim of these analyses was to formulate some initial answers to the question of how our students approached the theoretical constructions within the world of their experience. We were also interested in formulating one or more hypotheses about the ways in which the context of theatrical expression might impose a particular type of management regarding theories and whether the moving picture technique is a viable means of representation in the educational context.

3. Results

Below, we present and comment on the results of our analysis of each student group and conclude by creating possible categories that can characterise the theatricality of the theoretical representations more generally.

3.1. An aspiring Pavlov

The initial presentation of Pavlov's theory emphasised the fact that the phenomenon of conditioned reflexes is, in essence, an empirical production. In other words, the students argued that the theory, which they presented in general lines and without substantial transformations, ultimately describes and generalises an experience.

Thus, the theatrical study they proposed and completed attempted to create tension between the empirical facts corresponding to the description of the theory and a reality whose essence is based on an alternative theoretical model. The script recounts the story of a child that, having knowledge of what Pavlov puts forward, observes his three dogs when he feeds them. In the study, it was made clear that each dog thinks differently as it approaches and eats its food. The child writes a letter about his objections and sends it to Pavlov.

From what the group wrote in its final assignment, the narrative tension was triggered by Pavlov's experiment: *We crafted the child's character having in mind a child that is active, clever, with a sense of humour and who never rests. There were three dogs because we wanted to show three different characters: a wild one, an indolent one and a playful one. This helped us to turn the experiment around... Also, we saw that the theory of classical conditioned learning doesn't take into account all the parameters, such as each dog's experiences and its environment.* Thus, the tension was created between the empirical content of the reference theory and the abstract representations of another theory in which, although no particular reference was made, we recognise certain characteristics of pedagogical theories.

Finally, it should be noted that the theatrical context was an essential part of the group's internal negotiation. It functioned supportively in articulating the theory, as well as in reversing the goal of the lesson. As the group members wrote in their article's discussion: *While we were extremely familiar with the simple narrative of Pavlov's experiment, we had quite a hard time identifying its 'gaps', so as to be able to turn it around and show that what it is, is not as it seems. This meant that we often arrived at a scenario that only comprised a description of the experiment but didn't theatrically highlight the ideas behind it. A further difficult part of our script was that our heroes participating in the experiments are specific and autonomous bodies and their animation demands creative imagination, building the personality of each hero, conceiving the relations that serve the basic scientific idea and the animation of objects, i.e. motion.*

3.2. Darwin

The initial presentation of Darwin's theory up to a point included the historical context it appeared in. In terms of content, it was mainly descriptive with imperceptible transformations, but without putting the emphasis we expected on its probabilistic dynamics, a fact we stressed during the discussion that followed.

The scenario was composed along a general observation: Mankind considers it can adapt the environment to its needs, something it does systematically and with apparent success. However, ultimately, is it mankind that adapts to the needs or balances of the environment in unplanned ways, which conform to the theory of evolution? In the theatrical study, the hero first appears living in his furnished apartment in a densely-built city. At some point, he starts playing with a globe and finds himself teleported in an airplane, travelling and seeing the earth from above. As of this moment, images of human activities appear, such as cutting down trees, burning forests, pollution from effluent and rubbish, etc. The airplane starts wobbling dangerously and the hero appears in his apartment looking at himself in the mirror. His reflection slowly starts to decompose and ends up as dust. However, the sequence of events does not show the man's adaptation; it only clearly shows his destruction. In our opinion, the narrative gets carried away by the pessimistic version of ecological messages, which say that, in his effort to exploit the planet's potential to his advantage, man will end up becoming extinct. We acknowledge that this ecological message could be included in Darwin's theory, but we can hardly say that this theatrical study, which addresses the issue anthropocentrically and tends to ignore the order of magnitude of the evolution's time intervals, suggests this very relationship of evolutionary theory with ecology.

In their end assignment, the students mainly wrote about their difficulties and their choices regarding their artistic production. However, in the section of the text where they presented the process of elaborating their scenario, they revealed the almost automatic manner in which they shifted from the theory of evolution to the ecological narrative of destruction: *The choice of a good script to convey the exact meaning of the theory we had chosen was quite difficult. Therefore, based on the theory of adaptation, we tried to present the fallout from human intervention in the planet. At a time when mankind has managed to dominate the environment and adapt it to its own needs, without regard to the consequences, is it mankind or the environment that will ultimately survive?*

3.3. An imaginary world

This group of students focused on the theory about the production of shadow figures based on the central hypotheses of the geometric optics perspective. The presentation used school teaching clichés and did not explore the relation of the light to shadow figures and the person who feels or observes them. Despite this, it offered a perspective in the direction of the world of shadows being a world of reflected bodies rather than a real or material world.

The scenario of the study was built around this perspective. According to the students' final text: *A child wakes up in the middle of the night because of a shadow that scares him. Hugging his teddy bear close against him, he gets out of bed to try to understand what is happening. The teddy bear falls out of his arms and, as the child bends down to pick it up, he realises that his teddy bear is slowly growing bigger and bigger until it becomes a large bear... Suddenly, the child wakes up and realises that everything was a dream.* Or wasn't it? On the whole, the theatrical narrative, which also included other events between experience and dreaming, did not appear to be based on the reference theory. It evolved into a children's story of no particular interest (it was too descriptive), as was also upheld by what was mentioned in the end assignment: *We opted in favour of this scenario because it is the adventure of a young child in his dreams. In this adventure, the boy and his friend, the teddy bear, have the leading role, as great emphasis is also placed on the friendship between them. We considered that all of the above would capture young children's interest and that it would be a production that would be easily adaptable to a kindergarten class.*

3.4. The shadow

This is another study whose theoretical part derives from the natural sciences. As in the previous study, the presentation of the theory included the interpretation of the formation of shadow images through a geometric perspective.

The scenario of the study was slightly better structured: A child decides to go on a picnic in the forest with his cat. Once they arrive, he lays the tablecloth on the grass, brings out the food and begins to eat. At some point, the child feels sleepy and decides to sleep for a while, but, while he is asleep, the cat escapes from its cage and gets lost in the forest. When the child wakes up, he discovers that the cat has disappeared and decides to search for it. He starts calling it when he suddenly sees a huge and terrifying shadow emerging behind the trees. Scared as he is, he starts running towards his belongings and grabs them to go back home. While he's picking his things up, his cat appears behind the trees and starts meowing. Relieved that the scary shadow was nothing but the shadow of his cat, the child runs to it and picks it up in his arms.

Here the students inferred that the tension is created by ignorance of the theory whereby small objects have the capacity to cast large shadows. The problem with this study is that such knowledge can be obtained from one's own experience, without needing to deduce it logically from a theory.

3.5. The allegory of the cave

This group of students chose to present as such, with an animated picture, the central issue we posed in this course: The relationship of theory (as real knowledge) with experience (as apparent knowledge). The reason behind this choice was, in our opinion, the felicitous insight, on behalf of the group members, that all that was discussed during the course introduction was reminiscent, with variations, of Plato's story about the cave. In their initial presentation, the members of the group adequately discussed the philosophical narrative of the cave, with an emphasis on the hypothesis concerning the limited knowledge offered by empirical data/shadows that nature allows us to perceive through our senses – as opposed to the wealth of knowledge deduced logically from the abstract ideas constructed by the mind.

Here, we present excerpts from the group members' final text, which adequately describes both the artistic production and some of its semiotic characteristics: *Our narrative follows our hero on his path to knowledge. The manner in which we decided to present his evolution also included switching techniques, from sketch to shadow, to puppet-object, to a person. The animation begins by presenting successive sketches of a marionette that tries to cut its shackles. When the protagonist manages to free himself, he falls to the ground. This fall constitutes a transition to a different level. He finds himself in a different state, which attributes a further characteristic to him, transforming him from a sketch figure into a figure of shadow theatre. As such, he stands on his feet and starts a trajectory towards the light. In his effort to make this shift, he acquires new knowledge and experiences, which endow him with new elements and qualities, and, this time, transform him into a puppet object. This now three-dimensional puppet continues on the path to knowledge, moves through space and, as soon as it turns towards the source of light, which symbolises knowledge, acquires a human form. As a person now, he sees the light and is blinded by it; he is scared and falls down. However, when he manages*

to adapt to the new conditions, he attempts to continue his journey, which has always an ascending tendency, until he reaches the good that Plato referred to... Following the light, he reaches the highest possible point that he can reach... He finds himself in front of a window and jumps out of it. Has he reached his end or has he once again acquired a new hypostasis?

Following this, our analysis cannot really add anything more than the fact that the denouement to man's agonising attempt to approach knowledge and "truth" through thought does not guarantee a happy end. The tension of the theatrical narrative equated to its ambiguous ending: Is the construction/revelation of true knowledge the beginning of a new world or does such a world not exist?

3.6. Gender and sexuality

This group of students presented conflicting theoretical elements about the interpretation of the origin of sexuality, with emphasis on homosexuality. It presented theoretical testimonies that tend to attribute homosexual behaviour to genetic determinism, but also to acquired attitudes and preferences. Moreover, it raised the issue that both theoretical approaches (biological and psychological) tend to act aggressively against homosexual behaviour within the social context. In other words, they concluded, *should we engage in such interpretive approaches, we would be led to consider homosexuals either as "freaks" or as "mentally sick", which arises solely because in a sociological context an erroneous question was raised. Nobody asks, for example, why a person with male anatomical characteristics has "male sexuality" behaviours.*

The scenario brings together the two theoretical versions (those of genetic determinism and of acquired behaviours) with a protagonist of an anatomically indeterminate gender, and brings his/her conflicting personal and social experiences to the fore: What can happen during the reproduction process? A race as to which sperm cell will reach one and only ovule, so that the birth of a child will follow? How many innumerable discussions and disagreements, as well as unending panic, hold sway in the microcosm of human cells? And so... the protagonist's eyes open and his/her life begins to unfold in front of us. We watch snapshots of his/her daily life as he/she grows up, always through his/her eyes; moments with his/her peers, moments at school, in the working environment, in interpersonal relationships, in social pastimes and obligations. Elements of our hero's social identity, which determine him/her, are intimated through the evolution of the story.

In this case, the group of students clearly revealed a mechanism through which theory clashes with experience: When theory, deliberately or inadvertently, becomes ideology.

3.7. Fascism

This is another study that seems to have addressed empirical tension as the outcome of the confusion between theory and ideology. In this instance, the group members explored a different dimension of this confusion, where ideology is intentionally theorised. In this context, they carefully included the social phenomenon of fascism in their presentation, with special reference to its many faces.

The scenario unfolds with an emphasis on the tension of social resistance in the hidden faces of fascism: Initially, we see scenes accompanied by titles. The scenes and titles are displayed on a television set. A person appears to be watching the television and he seems troubled by what he has watched. Other people appear to learn the news through the Internet and newspapers. The person who has been watching the television turns it off and goes out. In the street, he sees various scenes that are unfolding. In his mind, he compares the images he saw on television to the scenes he sees in the street, but this time without any titles added so as to interpret the images. This person now stands in front of an artwork by Yannis Gaitis on the metro. He looks as if he is integrated and fits perfectly into this work, where all the people are identical and with their eyes closed. For a moment, the person closes his eyes, but he decides to open them again. He comes out of the metro station. He advances decisively, on his way somewhere. The people who were earlier learning the news through the Internet and the newspapers appear troubled, switch off their computers, close their newspapers and go out into the street. All the people seem to gather together at the same place. The study finishes with verses from a poem by Katerina Gogou: *I know that the newspapers tell lies, because they wrote that they shot you in the legs. I know they never aim for the legs. The brain is the Target. Keep it in mind, won't you?*

Globally, the meaning given by the student groups to the central issue of the particular activity was very varied. The theoretical representations were initially approached rather mechanistically. In due course, however, and under the pressure of using a theatrical context, a number of theoretical constructions with substantial content were built, regardless of whether these also included important transformations.

The artistic dimension of the studies produced by the student groups was, from a semiotic and aesthetic perspective, between adequate and of a high level. The production technique seems to have absorbed the

group members and the issues that arose during the time-consuming process of creating the animated picture are extensively presented in many of the final texts. Certain points that are worth mentioning are that: a) the impressive number of photographs that are needed in order to produce an episode is not immediately perceived by people engaged in this kind of production for the first time, and, therefore, in the first attempts it seemed as if they were transposing an almost untouched storyboard to film; b) the frame stability, which depends both on the position of the construction and on that of the camera, is extremely sensitive and often presented problems that were revealed in the end; c) the movement of the protagonists' bodies proved to be the most difficult to reproduce; and d) the time that seems to be required for these techniques to mature is finally longer than the duration of a typical academic semester.

All in all, in the attempt to theatrically represent the tension created between abstract theoretical ideas and the empirical information relating to the different parts of our world, we were given a series of alternative answers/versions:

A. The students used an empirical version of the theory they wanted to bring into conflict with experience, so as to deconstruct it on the basis of ideas they drew from a second, undetermined theory. In other words, they reversed the process we had agreed upon: the facts of Pavlov's experiment in contrast to the hypotheses were put forward by other cognitive theories.

B. The students used the empirical evidence produced by an ecological/environmental theory to project the pessimistic tension of its predictions as the anticipated outcome of a different theory. In other words, they incorporated one theory into a second one using the tension of the first one's predictions so as to ensure the theatricality of their production.

C. In two productions, the students referred to the geometric optics perspective theory, which predicts the manner in which shadow figures of different sizes are produced from the objects that cause them. In this case, transforming the aim of the whole activity, the students moved in the direction of creating theatrical studies "for children", based on empirical and metaphysical ideas about shadows.

D. The students theatrically presented the global issue of the conflict between an abstract theory and the concrete evidence of experience, using the classic narrative of Plato's cave as the basis of their theatrical study. The tension of this conflict (between an experience trapped by the senses and the abstract truth/theory) is created here by the open ending of the theatrical narrative.

E. In two productions, the students theatrically presented the tension creation between theory and experience when the theory is transformed into an ideology and is used in an empirical context that is different to the one that created it. In one of the theatrical studies, a biological or a psychological theory is created when it is embraced as an ideology/tension impregnated by social experience. In the other one, the "experiences" constructed by the mass media are consumed as ideologies and conflict with the theories.

Overall, we have five different paths through which theatrical studies also showcase different types of tension between theory and experience. Although quantitative assessments should be avoided here, we have to point out that the dominant tendencies which emerged tend to show as problematic the issue of approaching theories either as empirical narratives or as ideologies immersed in a context unrelated to the scientific one.

This said, beyond our main interest in the theatrical studies thematic content, we can observe that both the theatrical and the scientific aspects of the project were, on the whole, successful. Almost all the theatrical studies had aesthetic and semiotic integrity, which was not expected given the pressure exercised on the activities by the fact that the students were trying out animated picture productions for the first time. The end assignments were also complete as a whole, both in terms of their content and with regard to their form. This means that, at the very least, the activity succeeded in involving the students in our goal and really making the most of their creative disposition. The driving force appears to be the students' positive stance towards the prospect of creating a theatrical study of their own (Tselfés & Paroussi, 2015).

4. Discussion

In all probability, secondary orality has long been established in the educational area. Our empirical outlook, which usually sees theories as being born by observation and its generalisations, possibly does not permit us to see it. Even in many of the phases of this trial we conducted, it was shown that theories tend to be assimilated as narratives of individual empirical situations, irrespective of the teachers' insistence on denying it. Even when the trainees/students grasp what the teachers assert, their involvement with theoretical representations tends to transform the latter into ideologies. And ideologies are not theories; they are, rather, convictions that personally engage the subject and do not allow it to occupy the place of an uninvolved "global" observer.

On the other hand, the theatrical practices display a countervailing tendency. By undertaking the theatrical creator role, the students “step out” of the life that permeates their creation. And from this position, they most probably begin to perceive the tensions rising in the world they are constructing as tensions occurring because of their heroes’ contradictory representations; representations of different kinds: empirical, theoretical, ideological.

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