



Article

Technologies and education: student experiments in teacher training

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ABSTRACT

This work intends to communicate, initially, the first drafts from a survey about the daily routine of three face to face Pedagogy groups from UERJ, all of them in the first semester, in the spacetimes of a subject called Technologies and Education, taught by one of the authors of this article. It is intended to present some theoretical references that have led the classroom practices as well as to think – from the work carried out by students – of the places where the “know how” takes place labeled as common sense by the Academy, but that seem to overflow, invade and resignify ways to produce knowledge, allowing to emerge other operative logics which challenge and complement the scientific practice and the construction of doing activities in groups. The report from this intervention research aims to contribute to make the debate about the technologies applied to formal education wider and to escape from the analog / digital dichotomy. Students’ authorship listed here indicate that there is transit in which are supposed irreconcilable movements, and nurture the teacher to think about hybrid technology that marks the present time.

Key words: Technocultural artifacts. Knowing how. Authorship. Teacher training.

RESUMEN

Este documento tiene la intención de comunicar, sin embargo un principio, los primeros borradores de una investigación en el cotidiano de tres clases de pregrado del curso presencial de Pedagogía de UERJ, todos primero periodo, en espacio-tiempos de la disciplina Tecnologías y educación, impartido por uno de los autores de este artículo. Se pretende presentar algunos marcos teóricos que han llevado a las prácticas en el aula y el pensamiento – a partir de los trabajos realizados por los estudiantes – el lugar de “saber hacer” etiquetados como sentido común por parte de la Academia, pero eso parece, desbordamiento, invadir y resignificar la formas de producción de conocimiento, permitiendo otra lógica operativa emergente que desafiar y complementar la labor científica y hacerlo en un grupo. El relato de la investigación de intervención tiene como objetivo contribuir al debate más amplio acerca de las tecnologías aplicadas a la educación formal y trata de escapar de la

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⁴ In our research on the /of the/ with the daily routine, the use of articulated terms like this –and others that are presented in the text –aim to problematize the binaries with rationality that has become hegemonic.

dicotomía analógico/digital. La autoría de los estudiantes mencionados aquí indican que no se encuentra en tránsito que se supone movimientos irreconciliables, y permite que el maestro piense en la tecnología híbrida que marca el momento actual.

Palabras clave: Artefactos tecnoculturales. “Saberhacer”. Autoría. Formación del profesorado.

RESUMO

Este trabalho pretende comunicar, ainda muito inicialmente, os primeiros rascunhos de uma pesquisa realizada nos cotidianos de três turmas de graduação do curso presencial de Pedagogia da UERJ, todas de 1º período, nos *espaçostempos*⁴ da disciplina *Tecnologias e Educação*, ministrada por um dos autores deste artigo. Pretende-se apresentar alguns referenciais teóricos que têm conduzido as práticas em sala de aula, bem como pensar – a partir dos trabalhos realizados pelos estudantes – o lugar dos *saberesfazeres* rotulados de senso comum pela Academia, mas que aparecem, transbordam, invadem e ressignificam os modos de produzir conhecimento, permitindo emergir outras lógicas operatórias que desafiam e complementam o fazer científico e o fazer em grupo. O relato da pesquisa-intervenção visa contribuir para a ampliação do debate acerca das tecnologias aplicadas à Educação formal e procura escapar da dicotomia analógico/digital. As autorias de estudantes aqui elencadas nos indicam que há trânsito onde se supõem deslocamentos inconciliáveis, e oportunizam ao professor pensar sobre o hibridismo tecnológico que marca o tempo presente.

Palavras-Chave: Artefatos tecnoculturais. Saberesfazeres. Autoria. Formação de professores.

INTRODUCTION

Agreeing with Deleuze (1992) about the idea of learning as inventing problems and

as production of subjectivities, we think the practice of teacher education / as the ongoing process of inventing itself and the world. Thus, we know and want the confabulation of a course to take in the midst of unpredictability, even if they are necessary organizational rites and systematization that generate menus, lesson plans, previous references and other bureaucracies We embrace, not before problematize them and subvert them. Based on these notions, also inspired by Kastrup (2005), we believe that the invention of course also invents the subjects that will live experiences in spacetimes that it created. Educational practices, the school rules, courseware, curriculum knowledge are thus identities manufacturing time and space, differences, the different and prejudice towards them.

Because of that, I think the invention of the course Technology and Education, offered as a compulsory subject for the 1st period classroom course of UERJ Education. The one of the authors of this article fell to driving three groups - one located in the mornings and two other existing on the night shift, all with 4 hours per week, divided into two days.

When we talk about inventing a course, it also refers to the official menu update process, as we know, is located in spacetime from its original manufacturing, possessing durability guarantees in addition to the scenarios that served of context in its moment of creation. Therefore, every new course, the menu is renewed, seeks to identify its audience, creating paths and opportunities for dialogue in an attempt to convince students that it will be up to them to co-authorship of classes taught / experienced / on specific days and times, but that overflow in the corridors, on the Internet, in Whatsapp messages, seeking to define the actions to be performed on group work, for example. While we invent ourselves as teachers, as we define the script of a course, we want students to reinvent the processes of lessons, but we know this also depends on them, the commitment and the will

to do together, buying the idea and make it their own, beyond the academic ceremonial rites (often performing tasks, tests, etc.). This is a challenge that constantly is presented to us, whether in the form of apathy of students, is the feeling that something is not going well in class and therefore lose sleep, will be happy to be in room doing what is the crux of our work. The tripod of university life functions - teaching, research and extension - are not satisfactorily balances the classroom is not a space for creation, provocation, shiver in the skin and especially update.

Eco (2005), in the field of literature supports the idea that a work of art only has the full meaning of its existence when it is accessed and updated by those who will to meet some enjoyment experience. This causes it to be not possible for the artist to create a single address, able to lead the viewer to visit the exact landscapes envisioned by the original creator of the work. It is because, according to him, the work is open, that is, lies waiting sense that will be allocated by cultural practitioners who have contact with their imaginative possibilities. The concept of practitioners, pinched in the work of Certeau (1994), makes clear the idea of action from which we think the students - they are not isolated individuals, able to receive messages, but active creators, capable of receive-emitir- sewing-invent upgrade thoughts and attitudes, without necessarily giving up their cultural accumulations, as there are in the university insideout, transiting through scenarios loaded of memories, knows and hows and singularities, traces suffering severe attempts to silence in academy, rather than a supposed neutrality, objectivity and theoretical and methodological asepsis.

Well placed, it can take up, once again, that we do not practice aseptic science, free from contamination, setting an ideal of rationality that dictates the correct and definitive ways. We practice, with Latour (2011) and Maturana (2001), an unfinished science, in the process, immersed in the everyday that

make us, they inform, distort and transform. A science of possible, but not as the only way of reporting. A science that does not solve problems; instead invents others, it destabilizes the usual recognitive flow as steeped in a permanent transformation process.

One such attempt, put into practice the mentioned courses (even if it is a single subject - Technology and Education - we can not think of it as there is also in the three classes), concerns the stimulus for students to create spaces of authorship, worth If their preferences, the skills that each believed to have in the negotiations that will be able to do (because the spaces are collective), the possible means (digital or analog) and, above all, the time available, because the authorship spaces are updated every 15 days, and may or may not give rise to new forms, always oscillating between digital and the analog. Thus, we separate the Monday classes for the discussion of texts related to the scope of the matter - the use of technology at school - and, on Thursday, we practice what has been discussed, inventing ways to express concepts, to give life the ideas, recover memories and, especially, to forge collective signatures which relate, also by the way, something about their authors. We understand authoring by Derrida (1991) it is complex as a force that exceeds the individual, dialoguing with the multiple references that we incorporate in the course of our careers, which makes our text, always, a place of copyright explosion as contaminated, layered, stitched in many references that constitute and identify us.

What interests us in this experience is to discuss the knowledge production processes, stimulating free and plural authorship, trying to deconstruct some common notions guided the exclusive use of a Western rationality that supposedly would be able to reveal a transcendent truth. Rather, we mean that knowledge is constructed and reinvented from many points; It has varying shapes and can be narrated through many means. This

is where we introduce a polysemic notion of technology, not restricted to digital media, nor subject to artifacts produced and put to use by a publisher market trends. Technology, in discourse that practice is linked to everyday invention of ways of doing, plural ways lining techniques, knowledge and inventions that serve as temporary solutions to the problems that we are willing to create.

Technical artifacts and various technological (not always considered appropriate to the school context) enter the school through the hands and / or through the experiences of students and teachers (SOARES; SANTOS, 2012). Among the daily educational processes, both of them articulate the uses (CERTEAU, 1994) In this contingency, it behooves us to ask, after all, what are school artifacts? Although this is not an issue only relevant to our times, as has long been working in schools with diverse cultural artifacts, produced with not necessarily educational purposes (egg cartons, plastic cups, ropes, rolls of toilet paper, candles, glitter, magazines, toys, etc.) make other uses nowadays. This is because the inclusion of these new artifacts in schools no longer depends only on a decision of the educational system or the education program of a specific school unit.

The communicative environment - established for the development of media and information technology, in the globalization of markets, the transnationalization of labor and capital and the culture of media coverage - invaded, modified and prevented the borders before put between multiple daily contexts in which we live. Products, media, messaging and operational logic originally associated with the communicational and informational universe, made for professional or home use, began to enter schools, often without time to arrive and without asking permission.

Placed these circumstances, we believe that to better understand the pedagogical processes that take place in multiple everyday

contexts *insideout* schools, especially with regard to school artifacts of uses and possibilities that these uses create for the knowledge and the realization of the curriculum, we need to go beyond the idea of products, equipment, services and techniques invented, manufactured and marketed specifically to be consumed with educational purposes. In our understanding, school artifact is therefore all that, regardless of the context of their creation, purpose, function and manual, is used by teachers and students in their daily practices learning-teaching, *insideout* schools, to cover the possibilities for the realization of the curriculum understood as networks of relationships, meanings, knowing and doing.

1. FOR A METHODOLOGY SPEECH

We do not believe in the methodology as a previous speech that leads to safe paths and describes steps that can be taken by other researchers. The search path is made moving, and the person who is present in the day by day exists only in and on those who sees daily, which makes each search experience, a unique experience. But understanding with Lévy (1999) - to communicate is to share senses - we will try to tell you, as far as possible, the paths in the ongoing research.

First, it must be said that the work carried out dialogues with the memories of practitioners, are memories of their school days, those are stored in multiple networks in which we forge. Thinking along Alves (2010), the training / the teachers / as occurs in multiple contexts, linking practices / theories of academic experience, from everyday pedagogies, of government policies, social movements, research in education, production and media uses and experiences in the cities, we suggest thinking about the inside / outside of the classroom as trigger debates and as a supplier of raw materials needed to acts of creation that will be / are being practiced in the ambience of the courses. Through these memories

- multiple knowing / doing - we create possibilities of expression, adding, for example, cutting techniques and sewing (learned from grandmother, seamstress) and improvisations in the production of book covers, whose texture was achieved using wall-plaster, from the parent, who is foreman. It is this intersection between existing knowledge and new

knowledge we have built the collective spaces of authorship, expanding the understanding of what technology and recovering your creative power to the space / time set to education. On the pictures below, we can identify that the production of authorship has conferred with those prior knowledge gathered in different spaces / training times.



Image 1: Field diary with character made from modeling clothes; Binding with wool; book cover with texture mass race and decorated with fabric.

Another assumption that followed, thinking with students the creation of authorship spaces, with respect to digital possible appropriations networking, considering that the university space, often the only place where some of them have access to the computer connected to the Internet and where most can think of other uses beyond those already performed in online social networks, e.g..Through this thinking routine tasks performed on the Internet, students have promoted an intense back and forth on

the online platform and offline, experiencing transits, producing signatures and acquiring skills in multiple languages, some considered the most conservative, inappropriate for the space / time academic. This is how a member of a group whose colleagues prefer to create analog authorship spaces, negotiates with them the possibility to put his signature on the work by digital means, generating a QR Code printed on the field diary (image below), which will lead the reader to an online environment of her choice as a storage.



Image 2: Cover of the field diary that takes the author via QR CODE to an online space memory support; online space authored informed by QR CODE on the field diary.

Another authoring space extensively explored by students, also located in the continuous flow of offline experience earning records in cyberspace, is the audiovisual field. Immersed in a media convergence culture (JENKINS, 2009; MARTÍN-BARBERO, 2010), audiovisual landscape (RINCÓN, 2002, 2013), the possibilities / requirements listed in the technical artefacts (FLUSSER, 2002) and the establishment of modes and presentation of individuals and groups that favor new media (GONÇALVES; HEAD, 2009), cultural practitioners of the screen in classes ranging weaving ways of seeing and being seen, mixing languages and records images ranging from the preparation of a news stand to the invention of a starry music video for themselves from parodies of popular success. Making themselves authors of varied texts, allowing expressions that cross the boundaries of orality, inscribing their bodies in the copyright scene produced amid several references, they / will only building ways to expose thoughts that make use of existing technical resources but who are not content to follow previous instructions for use. Invent ways, editing possibilities, mimic consecrated formulas, stain existing texts , make fun of traditional methods of making knowledge. It is for this way of irony, delivery shamelessly and creative freedom that come the covers of Valesca Popozuda, interpreters

interviewed bandits, handlers puppets, singers parodies and presenters of television news. All these characters are lived in scenarios built by themselves, recorded by different imaging devices (cell phone, webcam, camcorder, tablet, etc.) and disseminated by various means (Youtube, Vimeo, CD-ROM, DVD, Facebook, Tumbler, Twitter, Blog, etc..). Oscillating between scripts and improvisation, mixing irreverence and shyness, the authorship of spaces has proven getaway from memories and know / do daily routine, alternative products to the mass consumption of prefabricated spaces. Such spaces are formed in networks of knowledge that intertwine, they are affected, are modified and complement each other. In addition to the forms, we could classify as videos, profiles, weblogs, channels, print, etc., we emphasize the hand-crafted character of production and the very low cost of the projects. Students understand that technologies are not accessible entities only through money, but are means that can be created from raw materials that have at home, leftovers, debris, kept that together can generate unimaginable knowledge. The following figures show a few frames combined audiovisual trials practiced by students. The equipment most commonly used to capture images was the cell, and the most recurrent editing programs are Windows Movie Maker, Adobe Premiere and Final Cut Pro X.



Figura 3: Screenshots of some videos produced as authorship spaces of students.

2. RESULTS AND DISCUSSIONS

Just as we resist the temptation to draft a methodology to characterize and define our work, even though we have offered clues that place us perhaps what Kastrup (2007) has called intervention research, we understand that giving results so far disqualify the possible readings taken by the reader. We argue that the scientific paper should be thought of as an indicator of clues as trigger to be walking trails by those who update to work with their cultural accumulations and message decoding modes. So we do not feel attracted to analyze collectively forged authorship spaces.

However, we can make some notes about the technologies employed in the design of each space - and this has to do with thinking the consumption of technocultural artifacts of our time. We know that we are immersed in an unprecedented digital ambience, which produce and store images like never before and we access information at any time, more and more dedicated to the quick thinking and handling devices that fit in palm of hand. However, when we observe such immersion in the digital network, we can not forget that cyberspace presents itself in a world that is also analog and realize it is very important not to disregard the knowledge related to manual, the use of techniques that cross generations, establishing ways to count and make passing through the handling of tangible things that get dirty from glitter, glue, which is adorned with sequins and colored crepe paper, that resignify cardboard, fabric, match stick, shirt button, discovering unusual materials and alphabetised in constantly changed languages, with multiple accents.

Exercising this thought, inspired by maximum Deleuze (1992) that things need not be this or that, but they can be this and that helps us to break with the dichotomies present in scientific discourse widely practiced in the West dichotomies that seek to separate the digital from analogue, as if one were necessarily the evolution of the other, no going

back two irreconcilable languages. In building bridges between these two modes we do, can contribute to the collective empowerment on both platforms, encouraging flow between them by designing them not as two spaces, but as an expression modes which cross and which can be, in some measure fruit in the creation accustomed to pierce barriers.

The monitoring of actions taken by those who handle various equipment also has informed us how impossible it is to close the probable intended uses in the user manuals. At various times of the work, we hear reports of practitioners who have decided to circumvent the rules of an editing software, for example, promoting an exchange between competing brands in order to get a result that join the benefits of one and the other. Although the devices have limitations and possibilities previously described, as argued by Flusser (2002), you can always give them new meanings, promoting textual loops between machine and man, where one is the other and both reinvent themselves, constantly and creatively. Therefore, it is important to highlight the uses that have been made of hosted videos on Youtube and gained certain popularity among practitioners of the network. Making use of video editing techniques, students have performed mashup in order to build speeches videos (sound, imagery) new from existing fragments.

Finally, we must recognize that we are facing a brand new society that allows other ways to build knowledge and disseminate information, providing opportunities - despite the numerous inequalities of access - almost democratic means to receive-sewing-send information, fitting to teacher training courses to encourage the daily trial of these multiform spaces where we can write our texts, our arguments, our stories, our hopes and all that we want to scream to the world. In times of view and give the view (BRUNO, 2010), we need to think about what and how to show, turning almost involuntary acts in creative actions

also deliberate without a need to give up the other. It is not about “pedagogizing” Facebook or abolish the supposed futility of selfies, but to find out what we can do from them, taking them as legitimate authored spaces that can serve us for leisure and for learning or, really understand that enjoyment and education are two sides of the same process and can therefore go together without departing without dichotomizing, opting for instead or.

CONCLUSIONS

What brought In this statement experiences are concerns that still instigate us to continue in the field, as the authorship of spaces are still produced every 15 days by students and do not stop to surprise us with inventions that are presented to us. Our idea is to continue the search for another two or three semesters, based on feedback received. We noticed, for example, that some areas of authorship, such as educational games, require more time for preparation and, because of that, we have more flexible delivery times, respecting the comments made by the students. We have also invested in the difference between digital and analog, so the groups also allow experience that which it is not their comfort zone. At the end of this first stage, we intend to create the conditions for the groups to present to each other, their materials, as some are kept confidential, in an attempt to save some surprise and not encourage plagiarism - which, in our view represents a fragile threat, since practice has shown that equal authoring spaces tend to produce completely different messages.

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