# BLURRED BOUNDARIES BETWEEN IDENTITY AND AVATAR: SOCIAL REPRESENTATIONS OF ICT IN THE COMMUNITY OF CONCEIÇÃO DAS CRIOULAS

# M. Portela<sup>1</sup>, T. Assis<sup>2</sup>, L. Moreira<sup>3</sup>

<sup>1</sup>Faculty of Engineering of the University of Porto (PORTUGAL) <sup>2</sup>i2ADS Faculty of Fine Arts of the University of Porto (PORTUGAL) <sup>3</sup>CIQUP, DEI, Faculty of Engineering of the University of Porto (PORTUGAL)

#### Abstract

This work reports an experience in a developing community and aims to explore the significance and roles of ICT, through the theoretical lenses of social representations theory. The contact with the community of Conceição das Crioulas, a Quilombola/indigenous community located in the state of Pernambuco, Brazil, was possible through the integration of the action-research group "Identidades" ["Identities"], held by a group of researchers from the Faculty of Fine Arts of the University of Porto, Portugal, ongoing since 1996. The main purpose of integration within the research group was, the development of a community website, subsequently leading to education activities about how to maintain and support this website. The action-research field study is organized in three cycles. The first cycle comprised the teaching of a four days intensive course/workshop of web design focused on programming languages, HTML and CSS, among other ICT contents. The course was taught by one of the researchers during a field visit in July, 2017. The second cycle developed between December-March, 2018, consisting in the analysis of the feedback obtained (as the communication with the students was maintained) and allowed us to understand through field notes, semi-structured interviews and qualitative data regarding the use of these technologies, the scope of meanings being attributed to digital devices. The final cycle consists of the analysis of the collected data regarding the website maintenance and the difficulties that occurred. Problems arise from limitations concerning a lack of bandwidth speed infrastructure, research skills and research interests. The consensual universe that emerges from the objectification of the digital era into devices and platforms allows us to understand how social identity processes might be affected by the appropriation of (or resistance to) technology, as the boundaries between identity and avatar become more and more blurred. With this analysis we intend to review several predictions or prophecies of technological and social determinism, thus, exposing the limitations of ICT for development (ICT4D) but also urging us to analyse the challenges of ICT from developing alternative mindset. These problems denounce the myth of digital diversity, considering the access nearly every member of the community has to a digital device, and how its use is currently limited to recreational purposes. The participation in this research allows a reflection on the spread of ICT in the Western society usually perceived as an educational opportunity. Reflecting about the possible inequalities perpetuated by the digital culture, demands questioning the subjectivation processes that occur through these devices. Participating in a reality that challenges our biases related to the use of these devices, enables a series of questions about what are indeed the necessary skills to excel and teach in the 21st century, and what are the limitations of this, after all, not so participatory culture.

Keywords: ICT, education, social representations, digital literacy.

## 1 INTRODUCTION

The community of Conceição das Crioulas is recognized by the persistent fight for land rights and the desire to eternalize its historical background and identity. A Quilombola/indigenous community located in the state of Pernambuco in the semi-arid northeast of Brazil, inhabited by approximately 750 families who identify themselves as descending from slaves, reminiscent of the Quilombo (a community organized by fugitive slaves). The community's history is told through its oral tradition as the arrival of 6 women to the land, guided by a fugitive slave, where they settled and where eventually able to buy, due to their work in the cotton fields. There is a predominance of the feminine leadership both in the historical and contemporary community, as supported by Leite, M. (2010), where the women are actively participating in the political and social organization, managing associations and syndicates in order to fight for the right to citizenship that contemplates the community's ethnic and cultural context.

Identidades [Identities] is the name of an action-research movement, started in 1996 by a group of researchers and students from the Faculty of Fine Arts of the University of Porto. By maintaining a relationship with several entities in Mozambique, Brazil Northeast and Cape Verde, several interdisciplinary activities were developed. Currently constituted by approximately 15 students and teachers from Brazilian and Portuguese higher education institutions, the intention to explore the value of cultural relationships (Paiva, J., 2009, pp. 56) is explored through the fields of as artistic education, digital literacy and ICT, video, photography and self-representation through both technology and art. The challenge of confronting the comfort of the individualism through the participation in collective activities enables its participants to question their predetermined beliefs. (Paiva, J. 2009, pp.44).

In March 2017 the challenge to design a dynamic website that would serve the community's interest in acquiring emancipation to share its news, history and craftsmanship creations was initiated. This attempt led to a subsequent questioning about the western model of technology education. How is this emancipation through technology being pursued in our own system, what kind of dependence might be latent in our own procedures and how can we try to overcome it?

This research approaches the community's use of technology through the theoretical lenses of social representations theory (Moscovici, 1961). We are interested in studying the way people in the community perceive technology in order to understand if these devices are enabling the creation and distribution of content aligned with the community's values. Using an action-research approach, we conducted semi-structured interviews, informal and formal discussions about ICT role and use in the educational, the technological, and the social contexts.

The subsequent sections will review the contributing literature on these three contexts, confronting them with the initial problem, the three cycles of action-research, the participants, context, data collection and analysis, the results of each cycle and the questions they raised, the discussion of these questions, the conclusions and directions for further research.

## 2 LITERATURE REVIEW

Participatory culture is described as enabling the public (consumer) to contribute and evolve to a producer status, acquiring a central role in the political and civic engagement as a member of the global village, in the production and sharing of content and meaning. (Jenkins, 2005). It is supposed that through this involvement, affinity spaces rise. In such spaces, individuals influence each other in a reciprocal relationship of informal mentorship, alternating between roles of actor/spectator, professor/student and producer/consumer. Gee (2005), along many other authors studying digital literacy, place digital tools as technologies to attribute and interpret meanings, fundamentally in the same way that language itself works. Thinking about ICT is thinking about media to create and distribute culture. The devices become artefacts of cultural production, semiotic to the context where they are being used.

Gee (2010, p.37) highlights that the importance is no longer how people respond to what is being distributed across media, but how they participate in the creation and distribution of information to be consumed, and how these dynamics affect the established social relationships. This blend between a priori roles that the individuals used to occupy is strongly related to the idea that a new generation with different demands was born into the technological era. There is a series of prepositions on the alteration of the intellectual capacities of a so called net generation (Tapscott, 1997) that the need to reinvent the various systems and pillars society held for centuries are no longer serving us. It is considered that the new media of human communication are enabling communities to self-organize and that the new generations of children are all born into this new society paradigm. Terms such as net generation (Tapscot, 1997) or digital natives (Prensky, 2001) tend to have their focus on the skills the new generation possesses to make use of this devices, leaving aside the capacity necessary to manage the relationships with these tools: critical thinking and perspective. Furthermore, they lack empirical support (Bennett, Maton, & Kervin, 2008). There is a constant speculation about the necessity to reform education and this may fall into a utopian discourse, since it tends to neglect the functionalities of the apparatuses and how they are integrated, disseminated and sometimes even forced into the classroom.

Gurstein (2000) led research about the social appropriation of ICT and community informatics, questioning the link between technology use and access. He presented the term effective use (2003) as an alternative to the digital divide, the capacity to successfully integrate ICT into the accomplishment of self or collaboratively identified goals. Gurstein's work drives the questioning

related with use and access to technology, and the definition of the relationship between consumer and producer in the paradigm of a participatory culture. Gurstein (2007) questions the need for access that dismisses the need for training, leading us to understand how the divide is not as much about access and demographics, as it is about literacy and the ability to integrate technologies with a critical approach. To consider these matters related to access we must raise several other questions as the ones mentioned by Clement and Shade (2000): "access for what", "access for what purposes", "access for whom" and "access to what".

To reflect about the ICT's and their use inside the community of Conceição das Crioulas we consider important to reflect about the semiotic background that envelopes them. Moscovici (1961) postulates the theoretical scope of the social representation theory as the approach to study the social symbology and the relationships that occur between behaviour, knowledge, meaning and how they are intertwined. In 1984, Moscovici makes a reference to Bower's statement, that proposes that in the modern society the perception of real objects is as important as the perception of their representation, which he explains by making a reference to Magritte's painting "Ceci n'est pas un pipe" (1929). This metaphor expresses the way we are persuaded to read an object that we don't know as something that we do know, ascribing it an immediate meaning, and transporting it from an abstract to a concrete dimension. Objectifying and anchoring are the processes that allow us to be in touch with our surroundings, and to interpret and ascribe meaning to what we see and feel. Through them, we interpret phenomena, objects, experiences, etc., turning the unfamiliar into familiar. Anchoring can be described as a cognitive bias that, has the etymology of the word says so, anchors to a specific event, object, etc. that cannot be immediately interpreted, a suitable similar phenomenon to the occurring one. It can also be seen as the categorization or the naming of something (Moscovici, 2009). Objectification is the process of turning the abstract into concrete. Through objectification, a representation is turned into a reality, and acquires a readable meaning to the individual.

According to Moscovici, the social representations theory relies on the evidence that in order to study phenomena and its meaning, we have to understand the social and ideological context where the subject is inscribed. He also highlighted the importance of participant observation where the process of integrating new phenomenon in daily practices could be analysed. Moscovici (1984), states that "when studying a representation, we should always try to discover the unfamiliar feature which motivated it and which it has absorbed". Considering this to be the main characteristic of qualitative research, we reinforce the necessity to adapt the implementation of these methods during the research in Conceição das Crioulas. Rega, Vanini et al. (2013), reflected about the representative character that multimedia centers have to the people in developing communities of Mozambique. The authors of this research aim to understand, through social representations theory, how different social groups perceive multimedia centres. The element that proposes a change in the context as much as the part that receives it are both suffering alterations, part of a dynamic that negotiates to find its place inside that change. Thus, it is senseless that there is an imposition of an external force, when instead, there should be a relationship between both parts.

This approach allows us not only to think about a how a different culture relates to technological devices, mobile phones, computers and the internet itself, but also to identify the differences/similarities of difficulties that may occur simultaneously in our apparently distinct scenarios. This permits addressing the question of how are we, in the western educational model, perceiving technology. This action research study was conducted with the aim of proposing a formative exploration of ICT's and web design in the community of Conceição das Crioulas. This objective was prior to the questioning of the current integration of ICT in Western educational system. In fact, only after the confrontation with the reality of Conceição das Crioulas, we felt compelled to challenge our own views on the Western education. By confronting the problem as the initial step to its resolution, the problem itself became the origin of the theoretical reasoning, allowing us to, through the possibility of establishing a deeper relationship with the community, perceive the problem from an insider's perspective as far as we could. This resulted that in each research cycle, different theoretical lenses helped us to think about the problem.

# 3 METHODS

# 3.1 Context of the study

As mentioned before, this research is developed over the course of one year in a Brazilian Quilombola community. Through active participation, semi-structured interviews and ethnographic observation

around the topic of building and sustaining the autonomy of a website as a tool for the expression of the community.

## 3.2 Action-research

This research involved three completed research cycles, each with the length of 4 months, with two field visits to the community by one of the researchers, one formal educational activity, and an informal relationship maintained during one year. The study was based on an action-research model. The first field visit took place in the end of the first cycle, and addressed the issue of supporting the development of a website for the community by engaging in a formal educational activity with 5 students, that would be held responsible by its maintenance and update. The second field visit closed the second research cycle and developed in a more neutral context, being paced by the usual day to day routine of the community. The third research cycle consists in the reading of all the data generated across this period through the three theoretical lenses: participatory culture and new media, as the digital context that involves us; ICT education and integration or ICT4D, as an answer to the specific problem of the development and maintenance of the community's website (explored through educational activities); social representations theory as the lenses that permit the reading of data, phenomena and limitations/problems that emerge from this dynamics. We understood during the course of this research, the requirement to successfully introduce ICTs inside developing communities is not only regarding infrastructure but on ethical and symbolic considerations, as supported in Tomitsch et al (2015), and Rega et al. (2013).

## 3.3 Participants

The research involved the integration of an action-research study group that is focused on establishing interdisciplinary relationships that promote artistic education and culture. Currently comprised by a group of approximately 15 students and teachers from Brazilian and Portuguese universities, the members that actively participate are 2 male teachers and 3 female students/researchers that integrate the Faculty of Fine Arts of the University of Porto, and one female student/researcher from the Faculty of Engineering of the University of Porto, which share the common-ground of improving and understanding the practices within artistic and ICT education.

The first cycle's educational activity on the topic of web-design, was developed by one researcher, while other focused on the topic of self-representation, identity and new media. The attendants were four males with ages comprised between 16 and 21, and two females with ages between 17 and 25. One female attendant abandoned the activity, being unable to commit to schedule. Two of the participants in this course were voluntarily held responsible for the placement and maintenance of news in the website, that would be created by a group of participants in a communication workshop taking place at the same time.

The second field visit allowed to be in touch with four of the most recognized community's teachers, two female and two males, and one of the school's manager. It was also possible to establish a deeper connection with one of the community's most recognized leaders, a wise woman craftsman.

## 3.4 Data collection and analysis

The qualitative data was collected in the end of the first cycle during the workshop and first field visit, in July 2017, and in the end of the second cycle, in March 2018. Records were transcribed and categorized. This process allows the understanding of how each field intertwines and if/how results present different outcomes according to different forms of analysis.

In each of these cycles there were multiple data sources: the weekly meetings with the actionresearch study group, where there was an open discussion about the lines of action and areas to work on the upcoming field visits; the workshop that took place in the end of the first cycle; a series of semistructured interviews; sporadic contacts kept with the workshop attendees; and the participation in formal education meetings inside the communities' schools.

## 4 ACTION-RESEARCH CYCLES

In the next few sections we report the main findings of the three action-research cycles.

# 4.1 Archeology of Digital Identity – First-Cycle

The integration of the action-research study group took place in March 2017 and allowed the researchers to engage in an active discussion about the community whose representatives expressed the desire of acquiring a digital identity. In the past, one of the researchers was involved in the attempt to fulfill this desire, but even though the platforms were active for a while they all end up by revealing unsustainable due to the workload they eventually represented for its developer. The same researcher has been part of this group since its early beginning, and maintained an active role in the study group, even though not being able to continue with the field visits. Nonetheless, as he was always aware of what was happening inside the community, he could provide insights on the why a variety of solutions were abandoned, as well as to prepare what we believed to be a more sustainable approach.

The open discussion held weekly within the group was maintained during 4 months prior to the field visit helping to organize the workshop and website for the community. The website's database should gather both blog entries/testimonials, as well as the community history, claims, arts and crafts, accomplishments, and a photographical/documental repository. This website was built by one of us and concluded during the July field visit in the final day of the web design course.

# 4.2 First-cycle iteration: Encontro com as Artes, Lutas, Sabores e Saberes da Comunidade [Gathering with the arts, fights, tastes and knowledges of the community]

The event lasted one week and involved around 250 visitors to the community's field. These visitors were students, researchers and teachers from 6 universities: University of Porto (Portugal), University of Cariri (Ceará, Brazil), University of Brasília (Brazil), Stadual University of Ceará (Brazil), Federal University of Bahia (Brazil) and Arts and Technology University institute of Cape Verde. Most of them were actively participating in delivering or attending courses in a set of different areas, such as: dance, arts and crafts, artistic expression, communication/media, and our own: web design.

We arrived at the community in the northeast Brazil, and although the it was winter time, the land was very dry and the landscape was evidently of scarcity (Figure 1). Animals were famine and there was no water on the landscape nor piped water inside the community. The water was provided by a truck that would do bimonthly visits to fill the water reservoirs outside each house.



Figure 1. Conceição das Crioulas Landscape, July 2017

During the week we would have dinner every night at the house of the community's association, AQCC (Quilombola Association of the Community of Conceição das Crioulas), and we would gather on a line and one by one be served by the community's cookers, five women. We would gather around in tables and posteriorly wash our own plate inside a big bucket of water. We could see from the first day how most people walked around with their phones in their hand, either listening to music or just carrying them, and how the phones had covers with glitter and several other fashion paraphernalia. We were also able to observe that clothes had a lot of brands, such as Nike, Gucci, Lacoste and other brands stamped on t-shirts, hats and sneakers.

All of the external visitors were being hosted inside the houses of the community's members, either sharing rooms or living rooms. The house one of the researchers was hosted belonged to a woman that worked in the community's school as a teacher and secretary. The house had a very big plasma hanged in the cement wall and a very big set of speakers. Everything was very clean and tidy and we

could see all the electric cable connections. The house owner was very kind to us and offered to share food and everything promptly.

#### 4.2.1 Workshop and testimonials

The workshop had the length of 5 days in the schedule 8am-1pm, and 2-5 pm and was restructured daily according to the feedback obtained during each session. After the first session several lacunas in the student's knowledge of basic ICT concepts emerged, such as: the creation and concept of email, concepts as hyperlink, networked communication and shared content creation. The workshop was divided in 6 modules, with 3 or more subsections. Each module was supported by a series of resources: download pages, tutorials, concepts sheets, and practice games. Each student was asked to create an email, because even though they all were connected to/through messaging apps, their account was created through the phone number provider. This resulted in the acknowledgement that several basic groundings would have to be addressed before the attempt to break through more complex concepts such as the construction of a webpage in tables or the characteristics of IP (Internet Protocol) addresses, domains or databases. Thus, we abandoned the belief that accomplishing a positive result of the workshop would mean for the students to build a static html page and shifted our focus in the attempt of expressing clearly the idea of how information behaves across the internet.

The first day of the workshop we were instructed to present ourselves at the AQCC headquarter, where the course would be held. When we arrived we realized there was no internet, projector and there was only one student. We reached out to him to find a solution and he promptly directed us to a kind of multimedia centre where there were 8 computers and internet 4G routers. After no more than 2 hours he had gathered more students and we were able to start our class. Several problems regarding language were rapidly emerging, as we anticipated, even though most of the students referred attending several years of English language classes. This was a difficulty but we were able to take some advantage of the situation, by encouraging students to take notes of each step of the process, which would allow them to revisit the content when asked to repeat exercises. It also allowed to explore the dimension of extensions/add-ons and their utility, for example, in translating digital resources. We proposed the creation of a shared folder in the "google drive" database, that would require each of the students to add links to the "help resources sheet", updated in real time, and a folder containing each of their name, where they would place all the work being produced during the week.

The students were shy and introverts at the beginning of the course but where rapidly feeling more comfortable in general, only the female offered bigger resistance and more difficulty with the contents. The students had some trouble focusing and their time span of attention was reduced, around 15 minutes, they would after either start talking to each other or visiting YouTube and Facebook. That led us to shift from a more expositive approach to collaborative work. This was a very rewarding activity because they organized themselves and delegated chores where they would quickly retrieve content, gather it inside their shared google drive folder, organize it, and place it on their website structure, developed through the course. The exercise consisted of building a website with any information they wanted, and they hastily agreed with each other in doing a website about the community.

The interviews took place during the final day of the course and were focused on understanding the context the social representations that the digital world and digital identity had to each of the participants. When asked about what they thought of the digital world, three of the students answered that they believed it had negative and positive aspects. They referred to the lack of awareness people have towards the vulnerability of allowing their child online without supervision, and the danger of pedophiles and racial discrimination. As positive aspects they mentioned the opportunity to learn new things and to communicate with people that are both close and far away.

All the students had a profile in the following social networks: Facebook, Instagram and Whatsapp. One of them has a Twitter account that he did not use and one of them referred that he now has an email account that he had to create during the course. When asked about the fidelity that their digital profile has to their identity and participation in the community, two of the students mention that their profile does not contemplate those aspects of their life because that is not the type of content people want to see and engage in social media.

To the question relative to digital media being able to transmit the community's values, all mention the possibility of sharing the community's achievements and news and how this will make external people to visit the community, as we can see in the following transcript: "For us to publish the good things about the community. It allows our achievements to get to other places. For example, the dances and

the futsal achievements of the girls. If they were not published on the internet, nobody would know that they won the futsal championship." (A. 16 years-old, male)

To the question related to their role in the community two students talked about how the community's leaders believed in the younger generations to be future and how they had the responsibility to evolve their work: "I represent the younger generations learning with the leaders of the community how to keep evolving their work." (D. 16 years-old, male)

In the end of the first research cycle two students were held responsible for the update of the website with the content that would be provided by the participants in the communication workshop. These two students had a login and password to enter the website database which allowed them to post news.

For the upcoming cycles, our main consideration was no longer how to deliver a content that they could or not be comfortable to acquire and use, but it became to question how will they engage in the production and share of content about the community as they do with content they find and share through Facebook.

## 4.3 Digital Entrepreneurship – Second Cycle

This cycle developed between January-March 2018 and had an iteration with one field visit from 28<sup>th</sup> of February to 3<sup>rd</sup> of March. After the first field visit several issues regarding the website maintenance occurred. These were problems regarding database updates and the communication with the students responsible to update the website. Several email contacts failed, which led us to create an account to communicate via WhatsApp. Yet, the one of the students was reaching out to solve matters of his own interest, requesting help to create his own website and portfolio, as he presented himself as the community's designer.

#### 4.3.1 Statically Dynamic Archive

The second field visit was held in a different context from the prior, and we had the opportunity to be a part of the community's daily-routine and the intent of the visit was the attempt to solve and understand the limitations occurring regarding the website maintenance.

One of the students responsible for the website update is also responsible for the space used to host the workshop. This place is a kind of multimedia centre where people go to use the computers and have access to the internet. That student is responsible for the maintenance of the computers (doing updates, password protection, installing software, etc.) and he manages the centre, he is the person who opens and closes the space, and he gets a share of the city hall incentives given to the community to maintain it. People reach out to him whenever they need to solve a problem, which he prefers to solve than to explain. In this process of entrepreneurship, we are able to understand that since our past field visit he had acquired access and was using more complex design software. He shared with us the type of work he was doing which consisted in designing artworks to be printed in pieces of clothing for social events, to which he would acquire free entrance.

The people visiting and using the centre were mainly teenagers, and they used the computers mostly to visit Youtube, and Facebook. During one week of observation there was only one group of 2 younger females doing work for school and research. Most of the teenage students in the community do not work and have no daily occupation since they completed High School, which was the case of the referred two students. When challenged to update the website, which they claim to have not done until now because they lost their user/password to access it, they said they are not able to create the content and that this should be provided by the communication group. After several attempts to reach out to two members of that group they kept saying that they lacked the ability and time to write, because their work as community teacher's was very intense. In seven months there was no production of updated news to the website, which could mean that the idea of website updated frequently might have been utopian and should be replaced with a more archeologic perspective, of static content.

Another problem regarding creating content to update the website in the section "news" became clear in the exercise of creating a book with the testimonials of the participants in the encounter. There was a severe lack of texts written by the community, which we understood during this field visit to be due to their difficulty to write, as one member asked us specifically to record her speaking and translate it to text so that she could participate. This makes us wonder the limitations of a communication medium that validates one type of expression more than others and makes us understand why instant message seems more appealing since it is more approximate to the way people speak.

#### 4.3.2 Mapping and visibility of Conceição das Crioulas

Since we were powerless to solve the obstacles around the website, we thought about challenging the two students to go around the community and taking pictures of community's school, and other points of interest. None of these places were on Google Maps, and the pictures that displayed when searching for the community were pictures of the dirt road being built several years ago. The students said they were unable to have access to the internet outside from the center, even though they were always carrying their smartphones in their hand, which reinforced the possibility of the representation of the mobile as a fashion item and status symbol (Tomitsch, 2015, Fortunati, 2002). These two students were always very curious about the model of the researchers' phones, and would ask directly about the model, brand and price. This demonstrates how they used these devices as more than a communication tool, as the Tomitsch (2015) revealed through his observation of rural Zanzibar, where some people would wear their phone inside a custom-made bag around their neck, acquiring it as social symbol.

#### 4.3.3 Identity, representation and social media

The day we arrived at the community during the second research, a meeting was taking place near the community's ancient house, that was now in ruins. There was an open discussion about recent events of felony and vandalism taking place inside the community. The leaders and teachers talked and presented their points of view. A teacher of the community alerted the teachers to give special attention to what is done in the classrooms, since the awareness for the importance of the land and the respect for the community's members and goods should start there.

They were concerned with the possibility of vandalism acts being exposed in the social media, which would not easily go away, damaging the community's image and identity. They spoke about the importance of maintaining a reputation that they have conquered and how those incidents could destroy work being built for so long. The internet was a space where those kind of accusations and proofs would be very hard to destroy, and would never completely vanish.

"What will the people from Portugal think if they know about these events happening inside the community? What will the people that come to visit us and that believe we are special and deserve their visit think of us? Is this how we want to be seen?"

G., Teacher, community's leader and teacher.

# 4.4 ICT Education – Third Cycle

In a conversation with the school manager the theme of digital literacy was introduced when he expressed a concern related to the critical judgement and the capacity of the community's members to use these devices/tools for more than recreational purposes. This became clear when during a class about history and referring other countries, there was no use of digital resources to exhibit the symbols and places being analysed. It was also brought up a concern related to the task that the students who were finishing High School would have to accomplish, writing a final paper. In order to accomplish this goal, they would need research skills and some level of digital literacy that the teachers would not be able to provide if they did not own it. This made clear the work that needs to be done with the teachers.

#### 4.4.1 Shifting to CMS and Future Work

The inability to actively participate in the update of the website and its maintenance, as well as understanding that the content that was effectively going to be produced in long term, made us realize that we were caught upon our own wishes of emancipation that resulted in centralizing the responsibility in ourselves. Currently, the website is being transferred to WordPress and we believe that this will not present any limitation.

The preparation of the next field visit is under development and will consist developing work with the teachers around the theme of digital literacy, enabling that moving forward, they can share digital contents and resources with their students.

## 5 DISCUSSION

The several obstacles that emerged during each action-research cycle expanded what we perceived to be a specific issue. The initial proposal of addressing the issue of creating a website revealed its

complexity when facing the problem of autonomy. Our problem expanded to the ability to captivate the engagement of the students to the use of digital devices for more than entertainment. This demanded considering the social representations being held to social media, the digital world, devices, the workshop and the community's website itself.

Thinking about the relationships that are being established to and through social media inside the community it is very interesting to see how there seems to be an overall awareness about the dangers of the internet and how it could damage the community's image and the perception of others about it. There seems to be an awareness about the difficulty of erasing something that goes online, as well as definition of the digital and the internet as the mobile and social network itself, as observed by Fortunati and Contarello, (2002). This was supported with the observation during the community's meetings. We consider for this analysis the necessity to work on the assumption that social representations involve understanding ideas and concepts/phenomena from the points of view of the persons involved, and not from an external or superior perspective (Pawlowski et al., 2004).

The episode that refers to the entrepreneurship around the "multimedia centre" being anchored to its "quardian" presented the possibility that he was, consciously or not, creating a dependence on the power to give others access and help to solve their difficulties. When challenged with the exercise of photographing and naming the schools of the community, both students expressed their lack of access to the internet which suggested an incoherence to the constant holding of their devices. As well as the limitations that teachers had to consider using their mobile phones to retrieve content to engage students during classes, or even to facilitate the access to a specific content (Tomitsch, 2015). The success of the group activity held during the workshop pointed at the same evidence of the fact that, as we knew, a group of researchers from Identidades had succeed in delivering a video workshop several years ago, where the group of students that integrated it managed to acquire autonomy to use the technology. That group of students created a video-making group called "Crioulas Vídeo", and directed, filmed and edited, a set of videos that were distributed across Vimeo and YouTube, and were recognized and rewarded by several entities. This tendency for the work being developed collaboratively to have better results makes us consider the possibility of contrasting the web development as an individual activity, such as design and even writing, which might be triggering of a more entrepreneurial approach.

Our own biases led us to believe that we would face more limitations when using a CMS to host the website, which eventually revealed to be unstained to its end use. The necessity to further research about this issue will only be possible through continuous observation of the further development around the website, its use and maintenance.

# 6 CONCLUSIONS

This research helped us to understand what ICT represents for a developing community, and how our discourse and methodology of teaching might be distorted from its purpose. Not only we were able to understand that the belief that we master a technology is challenged when the context of its necessity changes, as we were able to question what leads that the affordances present in technology cross generations and civilizations.

Is it possible that the way web design is being thought and taught in the Western civilization is enhancing it as individualist technology, and that its subversion by a community that is organized to function as a group becomes resists it? This demands us to question the relationship we establish with these technologies, in the formal and informal educational contexts, the way we prevail discourses of multiculturalism and are caught upon our own paradoxes.

We urge further studies that address the problem from different approaches, that should always consider the insiders perspective. We believe that forcing a technology into a different context from the one we as teachers, students and researchers anchor it, will result in emphasizing the characteristics of it that we do not fully understand, thus unable to subvert. Regarding the approach of web design teaching, we should consider and study the possibility of a reversed process, that begins by the appropriation of code and its posterior transformation as a process that could or not facilitate the students fluency.

Questioning one's ability to teach a subject should not be regarded as the resourcefulness a teacher has regarding that subject, but it's ability to address it from a completely different context, where the needs, difficulties and objectives will be a part of an entirely distinct paradigm.

"To teach what one doesn't know is simply to ask questions about what one doesn't know." [5]

#### ACKNOWLEDGEMENTS

Luciano Moreira is supported by the Portuguese Science Foundation (Fundação para a Ciência e a Tecnologia), grant PD/BD/114152/2015.

#### REFERENCES

- [1] D. Donnelly, O. McGarr, J. O'Reilly, (2011). "A Framework for Teacher's Integration of ICT into their Classroom," *Computers & Education*, vol. 57, no. 2, pp. 1469–1483.
- [2] S. Vannini, I. Rega, E. Fino, L. Cantoni, (2013). "Exploring the Meanings of Community Multimedia Center in Mozambique: A Social Representation Perspective," *Information Technologies & International Development*, vol. 9, no. 4, pp. 35-54, 2013.
- [3] S. Moscovici, (2001). Social Representations, Explorations in Social Psychology. United States: NYU Press.
- [4] M. Gurstein, "Effective use: A community informatics strategy beyond the digital divide" *First Monday*, vol. 8, no.12,1, 1 December 2003. Retrieved from: http://firstmonday.org/ojs/index.php/fm/article/view/1107/1027
- [5] J. Rancière, (1996). "The Ignorant Schoolmaster: 5 Lessons in Intellectual Emancipation", Stanford, California: Stanford University Press, pp. 30.
- [6] M. Tomitsch, F. Sturm, M. Konzett, A. Bolin, I. Wagner, and T. Grechenig (2010). "Stories from the field: Mobile phone usage and its impact on people's lives in East Africa," *ACM International Conference Proceeding Series.*
- [7] E. Vaast, (2007). "Danger is in the eye of the beholders: Social representations of Information Systems security in healthcare," *The Journal of Strategic Information Systems*, vol. 16, no. 2, pp. 130-152.
- [8] E. Vaast, R. Boland, R. J., E. Davidson, E. Pawlowski, S. D., U. Schultze, (2006) "Investigating the "Knowledge" in knowledge management: a social representations perspective," *Communications of the Association for the Information Systems*, vol. 17, no. 15, pp. 314-340.
- [9] Jenkins, H. (2006). "Confronting the Challenges of Participatory Culture" in *Convergence Culture*, The John D. and Catherine T. MacArthur Foundation Reports on Digital Media and Learning, MIT Press.
- [10] Gurstein, M. (2007). "What is Community Informatics and why does it Matter?" Milano, Italy: Polimetrica.
- [11] Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology*, *39*(5), 775-786.
- [12] Fortunati, L., & Contarello, A. (2002). Internet-mobile convergence: Via similarity or complementarity? Trends in Communication, 9, 81 98.
- [13] Paiva, J., (2009). Arte/desEnvolvimento, Faculdade de Belas Artes da Universidade do Porto.
- [14] Leite, M., (2010). Conceição das Crioulas: Terra, Mulher e Política, Sankofa. *Revista de História da África e de Estudos da Diáspora Africana*, Ano III, Nº 6