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Designing for inclusiveness - immersive workshops as gathering data tool

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ABSTRACT

This paper presents a brief description of four workshops designed as part of the research "Inclusive Informatics School for Blind Students". The workshops were designed with double objectives, as an introduction for the process of inclusion of blind students in Informatics Schools and as tool for gathering data for the research. In this paper we will discuss them from the point of view of the second objective. The workshops were conducted in Universidad Nacional (UNA) in Costa Rica with the participation of teachers from Informatics School, with blind students from UNA and teachers from other careers with previous experiences with blind students. The workshops provided valuable information to construct data for the global research.

Keywords

Inclusiveness, identity, belonging, blindness, inclusion, Social Theory of Learning.

INTRODUCTION

The overall aim of the PhD project Inclusive Informatics School for Blind Students is to develop a framework of inclusiveness for learning in universities, particularly for blind students.

Building on social theories of learning and learning in communities of practice [7], this project views inclusiveness as closely related to identity formation

> Because learning transform who we are and what we can do, it is an experience of identity. It is not just an accumulation of skills and information, but a process of becoming – to become a certain person or, conversely, to avoid becoming a certain person. [7]

Taking as a point of departure this reflection from Wenger, the inclusiveness process in the School of Informatics is not only a process of providing the right skills and information and to overcome the difficulties for blind students, but a more comprehensive challenge related to the issue of identity and the negotiation of new identities. In this sense, it is necessary to understand the elements that affect learning and how is altered by blindness.

Our main interest will be to understand the practice and the identities that can support or hinder, cope or block, encourage or discourage the learning process, the belonging and the inclusion.

Inspired by the model of "Two main axes of relevant traditions" [7], an inclusive educational environment can be presented as in Figure 1. Then, it represents the tensions between the social structure (law[2], discourses, culture, history related to blindness) and the practice of situated experience (coping with learning practice) and the horizontal axis between theories of practice (inclusiveness practice) and theories of identity (identity, formation, tools appropriation) [7].
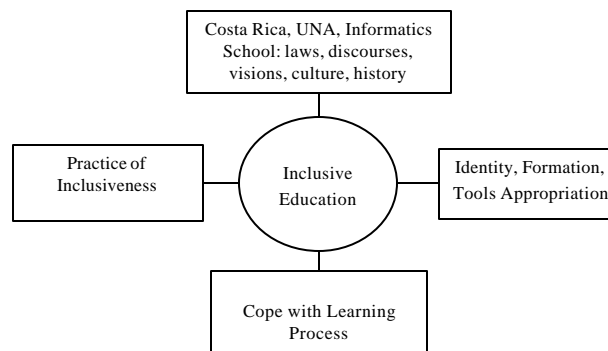
Figure 1. Two main axes for inclusive education in UNA

This study focuses on the axis dealing with the practice of inclusiveness and the identity of students. The social structures and situated experiences are discussed indirectly as interacting in the realization of the practice of inclusiveness and identity formation.

Methods To Understand Practice Of Inclusiveness

The project use two main approaches, in-depth ethnographic inspired interviews with blind students [6], and immersive and design workshops in a Costa Rican context. In this paper, especially we are going to discuss

the workshops as means to learn about and to design for inclusiveness.

THE WORKSHOP IN A GLANCE

Complementary to the semi-structured interviews, a set of four workshops were design with double objectives:

1. to design a workshop methodology to introduce the inclusive process into the Escuela de Informática (Informatics School - IS), in Universidad Nacional – UNA in Costa Rica, and

2. to develop a tool to collect data about blindness with teachers from the IS, teachers from other careers having experiences with teaching blind students, and with blind students of UNA. The presentation and discussion will focus on the second objective.

The workshops as tool to construct data

The four workshops were sequentially depending, with different sets of participants in each one. The four groups of participants were:

1. The Students group, conformed by four blind students from different careers of UNA, different than informatics.

2. IS-Teachers, consisting of seven teachers from the IS.

3. Experienced-Teachers, consisting of teachers from UNA with previous experiences with blind students.

4. The office of disabilities affairs of UNA (UNA Educación de Calidad para Todos – UNA-ECT).

The workshops were designed with inspirations from an ethnographical approach [3, 4]. The objective was to provide IS-teachers with some experiences about being blind, and to get insights into the lived experiences from blind students, furthermore to use these experiences as point of departure to formulate principles for designing for an inclusive Informatics School.

Viviendo entre penumbras y sombras

(Living among sombreness and shadows) The workshop was designed as an introduction to the blindness and its impact in the academic life in order to get the participants involved in the theme, with some real life experiences. The participants were only IS-teachers. It started with a personal presentation and a briefly description of their motivation for participating in the workshops. Then, participants were blindfolded to experience the blindness in simple and ordinary activities in the daily life and in the academia. Then, the curriculum of System Engineering of IS was used to inspire the partici-pants in thinking of possible difficulties that blind students may face enrolled in this curriculum Also,

they were asked to classify their findings with respect of:

- Advantages blind students may have.
- Difficulties with solution.
- Difficulties with high cost solutions.
- Solutions with value added to all students due to pedagogy improvements.
- Difficulties with no solution.

Related with the social structure, we wanted to learn the perception of UNA teachers about blindness; what was their attitude towards dealing with a blind student in classroom, and their preconceptions about the possibilities of success of these students. Also to learn from their own perspective, how should be the academic adaptations, and the process to belong to the classroom and to the university community[1].

Along this workshop, we tried to discover obstacles, barriers, stigmas, discriminations, ignorance that can affect the proper integration of blind students into the university community.

Also, we wanted to explore how the teachers see their own practice and how it will fit into the necessities of blind students, identifying the breakdowns, the tools that they think will be necessary and the ones that are missing.

Aprendiendo con otra percepción

In "Learning with another perception" workshop, the four groups were invited to participate. After a self presentation, participants formed working groups, considering having one blind student in each group. Each group should make a list of accessibility requirements based on the experiences of the students and related with infrastructure, tools, human resource support and material resources.

Each group worked inspired in one of these areas and they were intended to understand the relevance of the requirements, with a final discussing about the most relevant aspects they found. Along this activity, we wanted to incorporate new concepts about inclusion and accessibility, from the life experiences of the students and from teachers with previous experiences, with the intention to open a space where newcomers continue the

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[1] As university community we are referring to the group of teachers, students, support staff, and any other that have influences, participation, interaction into the process of learning into the university context. It is looser concept than community of practice, because we are not expecting that it achieve all conditions to be a community of practice. This not means either that it is not possible that some university communities can constitute a community of practice.

reflection process started in the first workshop, now enriched by the interventions of the students.

In the second part of the activity, we asked the groups to reflect on these questions: "Is it possible for a blind student to study System Engineering? Why? What do we need to do?" Groups were provided with the material generated in the first workshop related with the findings about problems and difficulties. They had the task of validate the difficulties and its respective classification, and revoke or confirm teacher perceptions, as another way to negotiate the meaning of the real difficulties. A final conclusion was made with the audience.

The workshop was planned to provide a space where the participants could discuss their own experiences. This process allowed identifying maybe not the tools that the inclusiveness practice should require for fulfill the necessities of a System Engineering student, but the tools that this practice is using in other careers in UNA, and also the tools that are not necessary because were established from false assumptions.

From the discussion of what is a problem or a difficulty and what is not, was possible to construct data about the tools that the students are using to overcome the situations that teachers mentioned from their perspective. Some of these tools belonged to the practice but others belonged exclusively to the students and their adaptation to the learning environment.

As a natural consequence, if the audience was validating thoughts, experiences and feelings with life experiences of students, it could be possible to add some other elements from the social structures, depicting gaps between discourses, culture and inclusion processes.

Related with identity, we expected to identify facts that could be affecting students identities, the influence of their membership or multi-membership, their trajectories, their negotiability within and with other communities, and how they perceived their opportunities to succeed. As the students were validating their reality regards teachers perception, some information about their own identity could be recognized [7].

Taller visionario: Soñando con el futuro.
"Future workshop: Dreaming with the future" was prepared inspired as a future workshop[1, 5] with the participation of only the students.

The preparation phase[1, 5], sets the scenario for taking the students in a journey of dreaming about tools and solutions. They were invited to participate in a workshop where they would have the opportunity to dream and share with other fellows about how they could have a better environment for learning at the university. Also, the previous workshop could work as inspiration.

The critique phase was called "Pintando mi realidad" ("Drawing my reality") and students were requested to bring to the session a list of difficulties that they have had to face regards of:

- Coping with the class room, regular academic activities, examinations, etc.
- Working in groups, labs, workshops.
- Coping with the academic and pedagogical environments.
- Using Tools.
- Any other academic activities.

The list has to be sorted to highlight the three most significant difficulties for each student which should be presented to the rest of the group.

In the request should be necessary to insist on not construct new difficulties, neither to include awful situations that may happen or happened rarely. Instead they should keep focus to enlist those difficulties that they faced daily in the academic environment, those that without being terrible situations constitute a little stone in their shoe.

It was essential to try to keep the motivation high in order to have group prepared to dream. Therefore, it was important to define "the 'critique phase' as the 'problem-finding phase'" [1], but it should not mean to be sunk in problems.

"A soñar…" ("Let us go to dream…") was the name of the fantasy phase. Here, the students were invited to reflect about their dreams to support them in the academia. Using the list of the first phases as an inspiration, they should think about solutions or tools for these difficulties, without any limitation with respect of availability, cost or feasibility. Even though the goal of the activity is to focus on solutions for the academic environment, no limits should be imposed in any deviation of their dreams. We wanted to register any dream they could have as a reflection about their needs, probably even undetected as such by them.

This was the most important activity in the whole set of workshops and one of the most difficult activities as well [1].

The last phase was designed to bring the solutions to the reality and was called "Dando pasos firmes ¿Qué es posible desarrollar?" ("Stepping on firmly. What is possible to develop?")

In this phase, we wanted to bring them back to their own construction of the world, to understand their own reality and how it is built. We wanted to see the students selecting the most relevant dream, or how much hopeful they were to find solutions to the situations that motivated them to enlist that specific dream. It could be difficult to separate these two possibilities, related with a single dream, but either case, both conclusions are very interesting.

From their perception about experiences and ideals, should be possible to construct their priorities, and from their wishes, should be possible to build their necessities. How these necessities influence their life? Also, we will be looking for something particular that may be significant for their identities, their membership or multi-membership, their trajectories, their negotiability within and with other communities and experiences.

It should provide some reification of practices as well.

Taller de profundización: Obteniendo soluciones

(Deepening workshop: Getting solutions). The last workshop was designed to join participant teachers from both groups, as a way to negotiate their reification of the blindness, the inclusiveness and the supportive tools, as well as a step to organize the concepts discussed to be prepared for a future formal process to develop policies, infrastructure, materials, tools, training, adjustments, adaptations; in summary, everything necessary to achieve reasonable levels of inclusion in the short-term.

The first activity was the presentation of the experienced teacher, talking about his experiences as teacher of a blind student, and about the methodological adjustments he did in his classes and evaluations and if these changes provided pedagogical improvements for the other students in the classroom.

The second activity was called "Aprendiendo del aprendiz - reflexión sobre lo aprendido" ("Learning from the learner – a reflection about the learned"). In this section, the results of the three previous workshops were presented and were used as a motivation to discuss things of the interest of the audience. It was an open space to explore the doubts, interests, worries, concerns, lessons learned, reflections, possible situations that could be specific for students in IS that are not present in other schools, the real opportunities that blind students have to succeed in this career.

The main objective of this workshop was to provide a space where teachers could reify their practice into a new one, which starts considering the concept of inclusiveness. From the point of view of the process, it provided information of their priorities and their feelings of the areas with higher difficulties.

Also, it interesting to understand how the process of negotiability of meanings and practices is, and how easy social structures can be readapted by themselves to provoke a real change in their own perception about blindness

FINDINGS

The workshops showed to be an efficient source of information to construct valid data, optimizing the short time available for the activity. Also, they allowed to us to observed a dynamic process of negotiation of meanings, that was rich not only in the process but in the final results. It was quite interesting to experience the fast moving of teachers in the inclusiveness process just within a few hours of workshop, experiencing the blindfold by themselves and through the students and enriched by the experiences of other teachers.   In summary, this is an activity that deserves to be done, not only for gathering data, but to cooperate with the inclusiveness process.

PLANS FOR FURTHER RESEARCH

The analysis in depth of the workshops is the next challenge. Due the nature of the activity and the multiple dialogues along the workshops, we will need to base our analysis in the videos and recordings and in the material generated by the participants.   The philosophical orientation will be toward phenomenological analysis with an hermeneutical approach to consolidate the data from all the sources[6].

ACKNOWLEDGMENTS

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