

## ABSTRACT

Today it is not uncommon to see disabled people attend universities. These include in particular mobility impaired people and blind people, but they are not the only ones, as other impairments can for example be hidden under the ‘normality’ of other students, teachers and administrative staff at universities.

As a university teacher it became obvious to me that there were no blind students at the School of Informatics at Universidad Nacional UNA in Costa Rica. This is surprising as this school has some of the university’s most attractive programmes. I learned that most of the blind people who were enrolled in UNA attended education careers programmes or philosophy. So I asked myself: Why are blind people not interested in studying informatics? Then I learned about a blind student who was interested in enrolling in the system engineering career programme a few years ago, but she quit from her initiative to do so.

It was at that moment that I shifted my focus from trying to understand why blind students were not interested in informatics and started to question whether the School of Informatics was prepared to receive blind students. As I was a teacher in this school I could start by asking myself this question. I had no idea whether blind students could study computer sciences, how I could interact with them, and what they would expect and require from me. I asked other teachers in the school, but they were equally unable to answer my questions, and this led me to conclude that the answer to the first question was no: we were not prepared to receive blind students.

This is what this thesis is about: how the School of Informatics can prepare itself to receive blind students. There are multiple objectives for approaching this question. It was fundamental for me to learn about blindness from the point of view of social construction, from the formal perspectives of people, researchers and advocates who deal with blindness. I wanted to learn about the tools they use, how the educational environment acts and reacts to blind students and, most importantly, how blind students cope with tertiary education.

A literature review on blindness, a representative tool for blind people, Wenger's social theory of learning as a theoretical framework and my empirical study of first-hand experiences; these elements support each other in my work to define a solid framework for understanding the phenomenon of blindness in higher educational environments. The empirical study was inspired by ethnography, grasping three blind students' experiences in tertiary education in order to illustrate their perceptions of the surrounding world and clarify the situations they have to face every day as well as their relation to the educational environments. They also provide rich feedback about the role these educational environments and other supporting institutions play in their studies and their future incorporation in the work force.

On the basis of this framework we can identify the continuities and discontinuities in educational environments in the inclusion process. The research has showed the significance of their participation in the educational context for their learning processes and professional futures.

The research proposes a repertoire to define:

- A general and pragmatic categorisation of blindness: blind people who rely on Braille to read and write, and partially sighted people who can read printed material with the use of magnifiers or other supportive tools.
- The social construction of blindness, drawing on four different models: the charity model, the medical model, the rights-based model and the economic model.
- A classification of different perspectives according the contributions of people who working towards inclusion. The four perspectives are: the medical perspective, the adaptive perspective, the integrative perspective and the inclusive perspective.

- A classification to determine the progress of institutional inclusion processes, defined by three levels: the entry level, the level of getting into inclusion level and the desired level of inclusion.

Under these classifications it was determined that the educational environments related to the fieldwork were at the entry level, and the initiatives in those contexts were related to the adaptive perspective. Furthermore, it was established that some parts of the educational environments needing to concentrate on ensuring better conditions for blind students.

To generate sustainable solutions, knowledge of blindness in the educational context must be improved, and I would argue that it is mandatory to include research in this process. With this knowledge, then, it is needs to design for inclusion, designing for the majority of students' necessities, not for particular populations. This design should eventually generate a single practice, as different practices converge, each defined by the variety of student practices.

As a strategy universities should incorporate inclusion topics in the curricula to teach their students about their responsibility to establish inclusion in their future work. This strategy is discussed as an efficient tool for improving the understanding of blindness and for easing the negotiability of practices between different populations. Therefore, this strategy contributes to the inclusion of blind students in these educational environments.

Specialised offices in each university will benefit the incorporation of policies, knowledge and understanding in the educational context to ease the inclusion process. Also, these offices should be the natural facilitators introducing the strategies to achieve the desired level of inclusion.

As part of the fieldwork a workshop series was used to gather information, but it is also presented as an introductory tool for initiating inclusion processes.

The discussion of tools was divided into two: a discussion from the point of view of the tools offered in the market and a discussion from the point of view of tools required for studying computer sciences. Some of these tools are available, but can only be implemented if teachers and students receive training in using them, others are already in use by students, and still others are waiting to be developed.

Identity issues require special attention. A conclusion is that it is fundamental for blind students to have a strong blind identity to negotiate their practices and that these practices are not subjugated to the dominion of the dominant practice.

Finally, this thesis will contain more questions than answers, but the questions are the detonators that improve a process that probably started a long time ago, but needs to be reoriented to be more effective and efficient in ensuring equal opportunities for blind and sighted students, particularly in connection with system engineering or other computer science-related career programmes.