



The impact of a faculty training program on inclusive education and disability

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ABSTRACT

This paper describes the knowledge gained by 20 faculty members following their participation in a training program on inclusive education and disability. The study, which was conducted at an university in Spain, aimed to design, implement and evaluate a program for training faculty members to respond in an inclusive manner to the needs of students with disabilities. An initial, formative and summative qualitative evaluation was carried out and four instruments were used for collecting the data: group and individual interviews, written open-ended questionnaires and observations. The data were analyzed inductively, using a category and code system. The results reveal that, after the training program, faculty considered what they had learned to be useful for their professional practice and highlighted that they felt better-informed and better-trained in relation to disability and were more aware of the needs of students with disabilities. Finally, in the conclusions section, the paper discusses the results in relation to those reported by other studies, and offers some recommendations for universities planning to implement training policies designed to build more inclusive learning environments.

1. Introduction

The helps and hindrances that students with disabilities experience at university have been widely documented in scientific literature (Bell, Devecchi, Guckin, & Shevlin, 2017; Fuller, Healey, Bradley, & Hall, 2004; Mullins, & Preyde, 2013). Universities have different support services and legislation which govern the rights of people with disabilities and many have declared their intention to adhere to the principles of inclusive education. However, there is still much work to be done, since universities have been identified as one of the most exclusive institutions, in relation both to access for people with disabilities and to students' experience during their time there (Bausela, 2002; Konur, 2006). Higher education is therefore faced with the challenge of developing inclusive educational processes which will enable the learning and participation of all students, while at the same time fostering a sense of belonging (Hardy & Woodcock, 2015; Messiou et al., 2016; Moriña, 2017).

During their time at university, students with disabilities may encounter a diverse range of difficulties (Clouder, Adefila, Jackson, Opie, & Odedra, 2016; Fuller et al., 2004; Holloway, 2001; Hopkins, 2011; Järkestig-Berggren et al., 2016; Shevlin, Kenny, & Mcneela, 2004). One particular aspect that is often mentioned by students is that they feel rejected by faculty members, who evince a negative attitude towards them (Järkestig Berggren et al., 2016; Mullins and Preyde, 2013; Strnadová, Hájková, & Květoňová, 2015). Indeed,

faculty members constitute one of the principal barriers which appear during these students' university careers (Moriña et al., 2015). Research indicates that some of them are not willing to implement the reasonable adjustments stipulated in the university rules and regulations (Fuller et al., 2004; Simpson, 2002; Yssel et al., 2016). For example, in some cases, students recount how faculty is reluctant to provide teaching material in advance or to ensure audio recordings of their lectures (Claiborne, Cornforth, Gibson, & Smith, 2011; Strnadová, Hájková, & Květoňová, 2015). In other cases, students report that faculty refuses to modify the methodology or the evaluation method used (Bessant, 2012; Vickerman and Blundell, 2010). The majority of studies which seek to give voice to students with disabilities coincide in pointing out that faculty members need to have their awareness raised and be properly informed and trained in relation to the specific needs of these students (Milic & Dowling, 2015; Vickerman & Blundell, 2010). Albeit less frequently, some other studies, such as the one by Yssel et al. (2016) have found that students with disabilities report a very positive relationship with faculty, highlighting their willingness to make reasonable adjustments to their classes.

In the majority of studies focusing on higher education and disability, the sample group comprised only students with disabilities, with only a few studies including faculty members. However, those that do include them highlight their limited experience, minimal training working with students with disabilities and lack of knowledge regarding inclusive instructional practices (Black, Weinberg, & Brodwin, 2014; Burgstahler & Doe, 2006; Cook, Rumrill, & Tankersley, 2009; Lombardi, Vukovic, & Sala-Bars, 2015;

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Love et al., 2015). Nevertheless, some researchers report that faculty members express an interest in making classroom accommodations and adopting more inclusive practices. They recognize that they play a key role in relation to students with disabilities, even though they often do not know just how to play that role (Becker & Palladino, 2016; Jensen, McCrary, Krampe, & Cooper, 2004; Leyser, Greenberger, Sharoni, & Vogel, 2011).

Both in Spain and in other countries, faculty training is voluntary and mainly focused on topics related to teaching methodologies. There is little room for specific training on disability and inclusive education in the range of training courses on offer to faculty members. Nevertheless, authors such as Hopkins (2011) insist on the need to teach faculty how to be more inclusive in their approach to students with disabilities or other non-traditional groups. And indeed, some universities have evinced an interest in designing and developing training programs to help faculty members respond more effectively to the needs of students with disabilities. For example, the “Teachability” project (Simpson, 2000) is an initiative which aims to improve curriculum accessibility for students with disabilities in Scotland. In the United States, the ASD curriculum has been developed to train faculty members in inclusive education (Debrand & Salzberg, 2005). In Spain, a number of training programs have been developed for faculty, which aim to teach them how to deal inclusively with students with disabilities (Dotras, Llinares, & López, 2008). In Ireland, Griffiths (2010) has developed a guidebook for inclusive teaching. In England, Hockings, Breet, and Terentjevs (2012) have compiled a set of online open resources for higher education faculty based on the principles of Universal Design for Learning (UDL).

The majority of training initiatives never move past the design phase, with no evaluation being carried out of their implementation and/or impact. The results of some of those that have been evaluated seem to coincide in concluding that faculty training in disability, inclusion and UDL has a positive impact on students, regardless of whether or not they have a disability (Cunningham, 2013; Garrison-Wade, 2012; Getzel, 2008; Madriaga et al., 2010; Redpath et al., 2013). Several studies conclude that the training provided helped improve faculty members’ knowledge of and sensitivity towards students with disabilities, as well as their general attitude (Davies, Schelly, & Spooner, 2013; Lombardi, Murray, & Gerdes, 2011; Murray, Lombardi, & Wren, 2011; Schelley, Davies, & Spooner, 2011). Moreover, students themselves were also found to benefit from faculty receiving this training (Getzel, 2008).

Therefore, including the contents of this training into everyday teaching practice is vital to creating an inclusive educational environment and raising awareness regarding the specific needs of students with disabilities (Black et al., 2014; Hockings et al., 2012). Moreover, it is necessary to design training programs that can be both implemented and assessed, in order to ensure that they are indeed effective and not only help faculty members understand the importance of providing an inclusive response to students with disabilities, but also show them how to do this in practice. This is the main contribution made by this paper, which analyzes the knowledge gained by those faculty members¹ who participated in a training program on inclusive education and disability. Following a qualitative evaluation of the implementation and outcomes of the program, the paper provides evidence of its impact on participants.

2. Method

The study outlined in this paper forms part of a broader research project funded by the Spanish Ministry of the Economy and Competitiveness: “Walking towards social and educational inclusion in the university: design, development and evaluation of a training

program for university faculty”. Over the four years that the project lasted (2014–2017) the aim was to train university faculty members to provide a more inclusive response to the needs of students with disabilities.

Three qualitative evaluations were carried out at three different moments: prior to the program design (training needs evaluation); half-way through its implementation (training process evaluation); and after its completion (results and impact of the training evaluation).

This paper focuses specifically on the results of the evaluation conducted at the end of the entire process, in which the aim was to ascertain what exactly participants had learned during the program.

2.1. Training program

“Moving towards social and educational inclusion in the university environment” is a training program targeted at university faculty which aims to teach them how to offer an inclusive educational response to students with disabilities. The program, which was designed by the research team, was implemented using the blended-learning method. The training program itself lasted six months (January–June 2016), with a total of 54 h (12 h of face-to-face training sessions and 42 online hours).

The face-to-face training was divided into three four-hour sessions, one held at the start, one half-way through and one at the end. The sessions were divided into two parts. In one part, students with disabilities were invited to come and talk to participants about their first-hand experiences in the university environment; and in the second part, participants were given the opportunity of clarifying any doubts that had arisen during the online sessions directly with their tutor.

The online training, which was provided through the Blackboard platform, was based on a series of learning modules with both theoretical and practical contents and activities designed to apply said contents and enable participants to interact in the debate forums.

The program contents were organized around a series of eight modules focusing on: disability, the social model of disability and inclusive education; the helps and hindrances identified by university students with disabilities; university regulations and disability support services; visual impairment; hearing impairment; mental disability; physical and organic disability; and finally, universal design for learning.

2.2. Validity of the training program

Prior to its implementation, the training program was evaluated by a team of experts. A written questionnaire with open-ended questions was designed in accordance with the expert judgment method (involving respected experts in the field and university students with disabilities). The results of this evaluation provided a series of suggestions for improving the program design, prior to its implementation. After analyzing the proposals made by the experts, the program was revised and the relevant changes were made to its contents, methodology, timing and resources.

2.3. Participants in the training program

To make up the sample group, the course was advertised on the university’s training center website, with a total of 30 places being made available. Although 23 faculty members registered, in the end only 20 completed the whole course, since two dropped out before the start and one failed to finish.

Adverts for the course specified its duration, methodology and contents. Moreover, it was made clear that participants would be forming part of a research project and would be required to engage in a training evaluation process. The adverts also stated that all faculty members participating on the free course would be given a 54-h training certificate by the training trainer, providing they successfully

¹ A range of different faculty members with different positions within the university participated in this study.

completed the entire process.

The six criteria used to select the sample were published in all advertisements: faculty members from all areas of knowledge (Health Sciences, Experimental Sciences, Technical Fields, Humanities and Social and Legal Sciences); faculty members of both genders; variety in relation to years of teaching experience; experience with students with disabilities; commitment to introducing changes in the classroom; and availability for active participation. All except two of the criteria were complied with. These two were: experience with students with disabilities, since 6 participants had never taught disabled students; and diversity in fields of knowledge, since no one from either the Experimental Sciences or Technical subjects expressed any interest in participating in the program.

Of the final sample group, 12 participants came from the Social and Legal Sciences (8 from the Faculty of Education), 4 taught Health Sciences and the remaining 4 came from the field of Humanities. As regards gender, 12 were women and 8 were men, and 14 claimed to have had a student or students with disabilities in their class at some point in their career. Finally, regarding years of teaching experience, half of the participants had 5 years or less experience at their university, whereas the other half had more extensive teaching experience.

2.4. Evaluation design and instruments

A qualitative evaluation was conducted of the training program (Celik, Abma, Kluge, & Widdershoven, 2012; Skiles, Wilson, & McClintock, 2012).

This evaluation was based on the principles proposed by Stake in his responsive evaluation model, which examines changes in participants' attitudes, beliefs and opinions through a qualitative evaluation process (Stake, 2010).

The instruments used to gather the data were semi-structured group and individual interviews, open-ended written questionnaires and observations. Some of the questions which guided the final evaluation of the program were: What have you learned during the training course?; Of the things that you have learned, which would you highlight as being most important?; What personal and professional benefits has the course given you?; Do you think you have changed or could change the way in which you organize and implement your syllabus? Why would that be?

During the final evaluation, three group interviews were held, lasting approximately 1 h 30 min each. Four faculty members were unable to participate in the group interviews, so individual interviews lasting approximately 1 h were arranged. Moreover, each participant completed an open-ended questionnaire in which they were asked to think and write about what they had learned during the course. Finally, two members of the research team observed the classroom-based training sessions. All the information was recorded and transcribed verbatim.

2.5. Data analysis

The data were analyzed using a system of categories and codes developed inductively by the research team in accordance with the proposal made by Miles and Huberman (1994). This was then used to conduct a comparative analysis of all the information gathered, with the help of the computer program MaxQDA12.

2.6. Ethical issues

All the information gathered was processed anonymously and confidentially. Participants were informed that, if at any time they wished to withdraw from the study, their data would be destroyed and excluded from the research report. No ethical approval was necessary for this research project.

3. Results

The results section presents those aspects that participants highlighted as being most relevant to and useful for their teaching practice. The section is divided into three parts, which correspond to the three-fold idea of well-informed, well-trained faculty members who are aware of students' needs.

3.1. Well-informed faculty: the importance of knowing about disability rights and resources

According to participants' comments, before starting the course they knew very little about students with disabilities. They were unaware of the regulations that govern students' rights in this area, and knew nothing about faculty members' obligations to their students with disabilities and the reasonable adjustments they are expected to make. Moreover, they were unaware of the fact that the university has a support office for disability, aimed at both students and faculty members. After completing the training course, participants stated that they felt more confident, since they now had more information about these issues. For example, they appreciated knowing that the regulations explicitly state that students with disabilities have the right to demand that the necessary modifications be made to the curriculum. Being properly informed of this reassured participants, since it helped them understand that their actions do not depend on their good will, but are rather a response to students' legally-recognized rights.

"I feel more confident now, since I know that if a situation occurs in which certain adaptations are required, then this is stipulated in the regulations and can be done." (Faculty 13).

It is worth mentioning that, for one faculty member in particular, the discovery that the university offers resources such as 3D printers for designing materials adapted to students with visual impairments was very important:

"But, for example, I learned something I didn't know before, that the university has 3D printers. This makes it much easier to compile, say, a specific dossier for those who read with their fingers, with the transcription already in Braille" (Faculty 15)

In general, participants attached a great deal of importance to the resources offered by the university to faculty members wishing to become more inclusive in their teaching practice. They particularly highlighted the knowledge they gained on the course regarding the advice service and the help provided by the disability support office (collaborating students, adaptation of materials, contact with other institutions, etc.) and the existence of university regulations regarding disability:

"The regulations, the resources, the Disability Resource Unit, some collaborators, etc. I don't think I'll forget all that" (Faculty 11).

3.2. Well-trained faculty: new knowledge and instruments for including students with disabilities

Participants also acquired new knowledge and a series of skills and instruments which, in their opinion, will enable them to respond adequately in the future to the needs and requirements of students with disabilities.

In this sense, learning about strategies for moving towards more inclusive teaching was a key aspect highlighted by faculty members, who claimed to feel more confident in their ability to deal with classroom situations which they found more difficult before participating on the course, since they did not have the necessary training.

One aspect they mentioned that they now felt able to cope with, and which in many cases is overlooked or ignored, was the issue of modifying the curriculum. As faculty members, many might think they are

capable of doing this when in fact they are not. Others claimed never to have felt capable of modifying the curriculum, and said that before the course they believed there was really no need to provide this particular response.

Given the complexity of modifying a course in order to adapt it to the specific needs of students with disabilities, participants concluded that this type of training was vital. They even suggested that it should be made obligatory for all faculty members:

“In fact, I think I’ve said this before, the course should be made obligatory for all teaching staff” (Faculty 5).

Participants also highlighted what they had learned in relation to developing accessible materials. One of the program’s aims was to teach faculty to design their own teaching materials. To this end, a number of different practical activities were included to give them the opportunity to create resources of this kind. For example, they learned how to compile an accessible PowerPoint presentation. Participants valued this learning experience very highly, commenting that the effort put into this task was an investment for the future, since it taught them to produce materials that could be used in subsequent academic years and would benefit not only students with disabilities, but everyone else also:

“The PowerPoint. Why? Because I never knew that you should use a certain font size, or certain colors... and now we have all these tools and what’s more, if we transform it... well we have a template we can use in the fairly likely event of needing it, which is more than fairly likely actually” (Faculty 15)

Other types of material adaptation, such as increasing font size in texts, using technological resources, transcribing the audio content of videos and verbalizing visual resources, were all positively assessed by participants as extremely useful resources for responding to the needs of students with disabilities.

There was also another area of activity included in the program that was evaluated very positively by faculty members. Participants commented that, before the training course, they were completely unaware of how many small details they could change in their everyday practice which would have a major impact on the learning experience of disabled students. They were referring here to small measures that require very little effort and which basically consist of avoiding or adopting certain habits: not moving too far away from students with disabilities and not moving around too much in general, not speaking with their backs to the class or while writing on the board, speaking clearly and slowly, inviting student feedback in order to check they are learning, and placing students in strategic locations within the classroom.

Rather than seeing them as specific tools, participants described these habits as “common sense” measures. Their training helped them identify numerous aspects of their teaching practice that would make it difficult for a student with disabilities to learn effectively; it also helped them to come up with alternative, more inclusive habits and methods:

“It’s true that sometimes you don’t realize, but then when you know you’re going to have a student with special needs in your class, then you have to think about where they should sit, and you have to make an effort not to move around too much, which is hard for some people, especially active people like me, but you often simply don’t realize. But then when you know, then you become more aware of these things, and I think all this is really going to help me” (Faculty 5)

Participants also commented that, thanks to the training program, they understood more clearly what steps to follow in order to respond to students with special needs derived from a disability, and when to use all the different methods they had learned.

“But it’s all clearer for me now. It’s like a complete process, from start to finish. Before, I would have said something like: ‘well maybe I’ll do this during the evaluation, or during tutorials I realize that I need....’”(Faculty 11)

Moreover, some faculty members commented that they came to understand that it cannot be a rigid, inflexible process that is the same for all students; rather, you have to adapt to the individual characteristics of each person. They therefore came to understand the need to offer customized attention to each student, taking their characteristics and individual needs into account.

“I also thought there would be like a rigid, standard protocol: if this happens, then this is what you do, etc. Now I see that while there are indeed specific actions you can take to adapt the course to each kind of disability, at the end of the day, and in practice, most adaptations are individual, and of course this cannot be laid out in a protocol, it would be impossible, because each student is different” (Faculty 17)

The impact of the program is clear also in relation to modifying a course to make it more accessible to students with disabilities. Participants changed their attitude from reactive to proactive. In other words, prior to the training program they thought that any changes that had to be made to a course should be done so once the problem had been detected and teaching had begun, while after the training program they believe it should be the other way round. A course should take into account the potential diversity of the student body before teaching commences and syllabuses should be accessible to all students, and based on the principles of universal design for learning.

“I think what best sums up what I learned on the course, and which can be applied at a practical level, is the idea that students with disabilities are not a mold to which I have to adapt my practice and my course. This is just a temporary band aid, for a specific case, which is then useless for future situations. It should actually be the other way round. My course should be designed from the start to be such a versatile mold that it fits any student, no matter what their circumstances” (Faculty 17)

Faculty members understood UDL as a concept that rounded off the training program and encompassed everything they had learned in previous modules. As such, they understood the importance of being prepared to include any student, thus avoiding (as one of the participants stated) the need for quick-fix, temporary solutions developed in response to unforeseen student needs and demands.

Finally, the idea of making courses accessible beforehand can be practically applied during the design phase of each course syllabus. Thus, participants attached a great deal of importance to this planning tool, which is so vital for students with disabilities. Once they had learned how to adapt their syllabuses in accordance with the principles of UDL, participants highlighted the need to analyze each of the components in their individual courses in order to identify those elements which may prove problematic for students with disabilities.

“The need to develop a universal syllabus, as a first step. It taught me to observe all the different sections of the course: contents, methodologies, evaluation methods, tutorials, etc. and detect those elements that need to be adapted to students with disabilities” (Faculty 17)

In short, reviewing the syllabus in accordance with the principles of universal design for learning was considered a method which enabled participants to practically apply everything they had learned on the training course. It is a practical step that enables them to be prepared for any educational need before they even start teaching their course. This in turn makes them feel more confident and helps them improve the quality of their teaching for all students.

3.3. Aware faculty: being aware of students’ needs

Finally, participants highlighted the greater awareness they had gained regarding the situation of students with disabilities, as well as the importance of offering an inclusive educational and social response to these students. Although participants were highly motivated to begin with, after the program they acknowledged that they were even more aware of the need for training in disability and inclusive education. An

area of knowledge and action that had not been a particular priority for them before the course became, in their opinion, a key area in the teaching practice of any faculty member. As a result of being well-informed and well-trained, participants felt they were more aware of disabilities and were more sensitive towards the needs of students with disabilities. They commented that the program had helped them develop more empathy and sensitivity than they already had, and motivated them to respond adequately to the needs of students with disabilities:

“Perspective, sensitivity...for me this is important too, because I think everything starts there, right? Becoming more aware of something you often think doesn’t concern you, or something you simply don’t see and do nothing about. I really think this aspect is very important. It’s vital to get people thinking” (Faculty 10)

Something which helped foster this awareness-raising process was the first-hand testimonies of students with disabilities, who attended the face-to-face training sessions and talked with participants about the barriers they had come across while at university. The obstacles many of them had to overcome prompted participants to rethink their teaching practice; some even talked of feeling guilty. In short, participants commented that they now felt a greater commitment to improving the way they respond to these students’ needs:

“The fact that we were the main obstacle, when we should be the exact opposite, right? As faculty members we should be there for our students, we should help them learn, and then it turns out that we are the greatest obstacle in their path due to our attitude, due to our ignorance. Of everything we learned on the course, this was the thing that most opened my eyes” (Faculty 10)

Participants also commented that prior to the training course they did not make any special effort to provide any specific kind of help to these students, because they did not really understand their real needs and had no idea how to respond to them. After the training, they highlighted the fact that they had been given the opportunity to have direct contact with something they knew nothing or very little about. This experience aroused concern in them, along with a firm commitment to reach out to these students and help eliminate the barriers in their path.

“One thing that was significant for me was that I realized just how much work we still have to do in this sense at a university level; those of us in the group need to say to the top management: what’s going on? How come you have students with disabilities and you’re doing nothing to help them?” (Faculty 14)

In short, participants acknowledge that their attitudes had changed drastically in relation to students with disabilities. According to their comments, participating in the training program made them feel more confident and capable of responding satisfactorily to the demands and needs of students with disabilities:

‘I know that I am now more aware of this type of problem, I understand the needs that I should respond to better, and I understand the tools that are available to me. In other words, I feel I am no longer a poorly-informed, unaware faculty member’ (Faculty 8)

4. Conclusions and discussion

As a result of engaging in the training program entitled “Moving towards social and educational inclusion in the university environment” participants felt they were better informed, better trained and more aware. The experience evaluated helps provide evidence that training in disability and inclusive education may have a positive impact on teaching practice. During the training course, participants report having incorporated what they had learned into their teaching practice. Although at an international level only a few studies have

focused on the design, implementation and evaluation of training for disability, those that have been conducted reported similar results (Cunningham, 2013; Garrison-Wade, 2012; Getzel, 2008; Madriaga et al., 2010; Redpath et al., 2013). One of the novel contributions made by this study is that faculty members from different fields of knowledge participated in both the training and the evaluation process. Another is that both the training itself and its impact on participating faculty were evaluated. Also, the methodology used to evaluate the design, implementation and outcomes was qualitative at all times (mainly interviews and observations). And finally, another important contribution made by the study is the use of the Blended-Learning methodology for faculty training in inclusive education, since other experiences have focused either on short face-to-face courses or exclusively on-line formats.

The present study also contributes to filling in a gap in the literature, since it provides evidence of what faculty members actually learn when they engage in training on how to respond to disability based on the principles of inclusive education. Furthermore, it responds to a need expressed in studies on university students with disabilities, which state that the main barrier encountered by these students in postsecondary education was faculty members themselves, who should therefore be better informed, better trained and more aware (Hopkins, 2011; Moswela & Mukhopadhyay, 2011; Tinklin, Riddell, & Wilson, 2004).

Firstly, a well-informed faculty member should not engage in actions that rely solely on their good will; rather, they should be aware that there is a regulation that specifies the modifications that can be made to the curriculum and sets out the rights of students with disabilities. Therefore, being well-informed is the first step to tearing down some of the barriers mentioned by students in other research studies (Fuller et al., 2004; Leyser et al., 2000).

Secondly, it is not enough just to be well-informed. Faculty members also need to be well-trained. In this study, participants highlighted the fact that they had learned how to modify the curriculum and how to design and develop syllabuses based on the principles of UDL. Participants also stressed that after the course, they felt able to review their existing syllabuses in order to ensure that they are inclusive and accessible in the future. This in turn made them feel more confident, since they had been taught how to respond adequately to the needs of students with disabilities.

With regard to training, participants also underscored the fact that the improvements made (more accessible materials, syllabuses based on UDL) benefited all students, not just those with disabilities. Other authors have also reached a similar conclusion (Gorard et al., 2006; Pliner & Johnson, 2004).

These arguments give rise to the idea that training in disability and inclusive education should be obligatory for all faculty members. Indeed, other authors recommend that this training be mandatory for all staff (Hurst, 2006; Moriña et al., 2015). Nevertheless, in practice, a contradictory situation often arises, with those faculty members most in need of training being the ones least likely to receive it. This can be explained by the fact that, as stated in the introduction, training is currently voluntary, not obligatory. In this study, for example, no faculty from the Experimental Sciences or Technical degree courses showed any interest in participating in the training program. Moreover, participation was fairly low, since of the 30 places available, only 20 were filled. Therefore, we believe it is vital for universities to design strategies aimed at attracting as many faculty members as possible to the program. One proposal is that disability and inclusive education be included in initial faculty training as mandatory contents. Moreover, faculty training policies need to be rethought, and studies are required that conduct a thorough, rigorous analysis of staff training needs and the training courses offered by universities. As a result of the evaluation of the implementation and impact of this training program, a second training course was run at the University in which the research project was conducted during the 2016–2017 academic year. Moreover, other activities stemming from this initiative within the field of inclusive

education include the setting up of support groups for responding to the needs of students with disabilities, in some of the faculties in which participants on the training course habitually work.

Thirdly, being well-informed and well-trained inevitably leads to faculty members being more aware. Several studies have concluded that training has an impact on faculty members' sensitivity to students with disabilities and helps improve their attitude (Davies et al., 2013; Lombardi et al., 2011; Murray et al., 2011; Schelly, Davies, & Spooner, 2011). Moreover, students themselves were also found to benefit from faculty members receiving this training (Getzel, 2008). Our study found similar results, with participants claiming to feel more motivated and more sensitive towards the needs of students with disabilities. This change in faculty attitudes is also one of the things called for most urgently by students (Moriña et al., 2015). Training, therefore, has an impact on faculty members' professional and personal commitment to and attitudes towards disability. This conclusion is particularly interesting when we take into account the fact that the affective and emotional components of the faculty-student relationship is important to students, who value the "human aspect". In the study conducted by Stein (2014) for example, when asked what elements contributed to their academic achievement, students identified (among others) the fact that faculty were concerned about them and had a positive attitude towards them. The responses demonstrated that students believe that it is not just effective teaching methods that are necessary in order for them to learn, but also positive interactions with faculty members and a sense that they are concerned about them. Consequently, university policies should include informative and awareness-raising campaigns designed to communicate to academic staff the needs of students with disabilities.

Finally, the results of this study suggest that faculty training in disability and inclusive education should be a key element in any university system that wishes to design and implement inclusive education processes. It is therefore necessary to articulate policies, processes and actions aimed at ensuring that responses to these students' needs do not rely on good intentions alone, and that faculty members are well-informed, well-trained and aware of the issue and its implications for all involved.

4.1. Limitations and lessons learned

The study has a number of limitations. Firstly, it would have been better for the sample group to include faculty members from all knowledge areas. However, no representatives from the Experimental Sciences or Technical fields participated. Also in relation to the sample, despite 30 places being available, only 20 faculty members participated in the program. Future research should make an effort to include faculty members from all fields of knowledge and to evaluate how the training impacts professional practice in different areas.

Nevertheless, despite these limitations, we believe that the findings presented here demonstrate how faculty training benefits both faculty members themselves and students with disabilities. Moreover, other universities should also set up their own training programs, in order to help build a fairer and more equal and accessible educational and social environment.

Finally, it is necessary to design, develop and evaluate training programs on disability at universities. We believe that the use of a qualitative evaluation method may provide valuable information to help improve training programs. It is also important to take faculty training needs into account when designing a program. Half-way through the development of a program it is a good idea to carry out a process evaluation in order to determine what needs to be changed in order to improve implementation. Moreover, outcomes must also be evaluated in order to ascertain whether or not the training has proven useful and what impact it has had on participants. In conclusion, we believe that although different data collection instruments may be used at all stages of the evaluation, interviews should always be conducted.

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References

- Bausela, E. (2002). Atención a la diversidad en educación superior. *Profesorado, revista de currículum y formación del profesorado*, 6, 1–2 Retrieved January 13 2017, from <http://www.ugr.es/~recfpro/rev61COL4.pdf>.
- Becker, S., & Palladino, J. (2016). Assessing Faculty Perspectives about Teaching and Working with Students with Disabilities. *Journal of Postsecondary Education and Disability*, 29(1), 65–82.
- Bell, S., Devecchi, C., Guckin, C. M., & Shevlin, M. (2017). Making the transition to post-secondary education: Opportunities and challenges experienced by students with ASD in the Republic of Ireland. *European Journal of Special Needs Education*, 32(1), 54–70. <http://dx.doi.org/10.1080/08856257.2016.1254972>.
- Bessant, J. (2012). 'Measuring Up'? Assessment and students with disabilities in the modern university. *International Journal of Inclusive Education*, 16(3), 265–281. <http://dx.doi.org/10.1080/13603116.2010.489119>.
- Black, R. D., Weinberg, L. A., & Brodwin, M. G. (2014). Universal design for instruction and learning: A pilot study of faculty instructional methods and attitudes related to students with disabilities in higher education. *Exceptionality: Education International*, 24(1), 48–64 Retrieved February 4, 2017, from <http://ir.lib.uwo.ca/eei/vol24/iss1/5>.
- Burgstahler, S., & Doe, T. (2006). Improving postsecondary outcomes for students with disabilities: Designing professional development for faculty. *Journal of Postsecondary Education and Disability*, 18(2), 135–147 10.1.1.495.5618.
- Celik, K., Abma, T. A., Klinge, I., & Widdershoven, G. A. (2012). Process evaluation of a diversity training program: The value of a mixed method strategy. *Evaluation and Program Planning*, 35(1), 54–66. <http://dx.doi.org/10.1016/j.evalprogplan.2011.07.001>.
- Claiborne, L. B., Cornforth, S., Gibson, A., & Smith, A. (2011). Supporting students with impairments in higher education: Social inclusion or cold comfort? *International Journal of Inclusive Education*, 15(5), 513–527. <http://dx.doi.org/10.1080/13603110903131747>.
- Clouder, L., Adefila, A., Jackson, C., Opie, J., & Odedra, S. (2016). The discourse of disability in higher education: Insights from a health and social care perspective. *International Journal of Educational Research*, 79, 10–20. <http://dx.doi.org/10.1016/j.ijer.2016.05.015>.
- Cook, L., Rumrill, P. D., & Tankersley, M. (2009). Priorities and understanding of faculty members regarding college students with disabilities. *International Journal of Teaching and Learning in Higher Education*, 21(1), 84–96 Retrieved February 5, 2017, from <https://eric.ed.gov/?id=EJ896246>.
- Cunningham, S. (2013). Teaching a diverse student body? a proposed tool for lecturers to self-evaluate their approach to inclusive teaching. *Practice and Evidence of the Scholarship of Teaching and Learning in Higher Education*, 8(1), 3–27 Retrieved May 14, 2017, from: <http://eprints.mdx.ac.uk/11029/>.
- Davies, P. L., Schelly, C. L., & Spooner, C. L. (2013). Measuring the effectiveness of Universal Design for Learning intervention in postsecondary education. *Journal of Postsecondary Education and Disability*, 26(3), 195–220 Retrieved January 12, 2017, from <https://eric.ed.gov/?id=EJ1026883>.
- Debrand, C. C., & Salzberg, C. L. (2005). A validated curriculum to provide training to faculty regarding students with disabilities in higher education. *Journal of Postsecondary Education and Disability*, 18(1), 49–61 Retrieved February 5, 2017, from <https://eric.ed.gov/?id=EJ846380>.
- Dotras, P., Llinares, M., & López, P. (2008). *Propuesta de formación al profesorado en el contexto de la Universidad Pública*. V. Oviedo, Spain: International Congress of Psychology and Education April.
- Fuller, M., Healey, M., Bradley, A., & Hall, T. (2004). Barriers to learning: A systematic study of the experience of disabled students in one university. *Studies in Higher Education*, 29(3), 303–318. <http://dx.doi.org/10.1080/03075070410001682592>.
- Garrison-Wade, D. F. (2012). Listening to their voices: Factors that inhibit or enhance postsecondary outcomes for students' with disabilities. *International Journal of Special Education*, 27(2), 113–125 Retrieved January 12, 2017, from <https://eric.ed.gov/?id=EJ982866>.
- Getzel, E. E. (2008). Addressing the persistence and retention of students with disabilities in higher education: Incorporating key strategies and supports on campus. *Exceptionality*, 16(4), 207–219. <http://dx.doi.org/10.1080/09362830802412216>.
- Gorard, S., Smith, E., May, H., Thomas, L., Adnett, N., & Slack, K. (2006). *Review of widening participation research: Addressing the barriers to participation in higher education*. Bristol: HEFCE.
- Griffiths, S. (2010). *Teaching for inclusion in higher education: A guide to practice*. Dublin: All Ireland Society for Higher Education.
- Hardy, I., & Woodcock, S. (2015). Inclusive education policies: Discourses of difference, diversity and deficit. *International Journal of Inclusive Education*, 19(2), 141–164. <http://dx.doi.org/10.1080/13603116.2014.908965>.
- Hockings, C., Brett, P., & Terentjevs, M. (2012). Making a difference—inclusive learning and teaching in higher education through open educational resources. *Distance Education*, 33(2), 237–252. <http://dx.doi.org/10.1080/01587919.2012.692066>.
- Holloway, S. (2001). The experience of higher education from the perspective of disabled students. *Disability & Society*, 16(4), 597–615. <http://dx.doi.org/10.1080/09687590120059568>.
- Hopkins, L. (2011). The path of least resistance: A voice-relational analysis of disabled

- students' experiences of discrimination in English universities. *International Journal of Inclusive Education*, 15(7), 711–727. <http://dx.doi.org/10.1080/13603110903317684>.
- Hurst, A. (2006). Disability and mainstreaming continuing professional development in higher education. In M. Adams, & S. Brown (Eds.), *Towards inclusive learning in higher education* (pp. 56–66). London: Routledge.
- Järkestig-Berggren, U., Rowan, D., Bergbäck, E., & Blomberg, B. (2016). Disabled students' experiences of higher education in Sweden, the Czech Republic, and the United States? a comparative institutional analysis. *Disability & Society*, 31(3), 339–356. <http://dx.doi.org/10.1080/09687599.2016.1174103>.
- Jensen, J. M., McCrary, N., Krampe, K., & Cooper, J. (2004). Trying to do the right thing: Faculty attitudes toward accommodating students with learning disabilities. *Journal of Postsecondary Education and Disability*, 17(2), 81–90 Retrieved 20 December 2016 from <https://eric.ed.gov/?id=EJ876004>.
- Konur, O. (2006). Teaching disabled students in higher education. *Teaching in Higher Education*, 11(3), 351–363. <http://dx.doi.org/10.1080/13562510600680871>.
- Leyser, Y., Vogel, S., Wyland, S., Brulle, A., Sharoni, V., & Vogel, G. (2000). Students with disabilities in higher education: Perspectives of American and Israeli faculty members. *International Education*, 29(2), 47 Retrieved January 20, 2017, from <http://search.proquest.com/openview/57aa432795aa61ed918ffcc80fa7c81/1?pq-origsite=gscholar&cbl=1818844>.
- Leyser, Y., Greenberger, L., Sharoni, V., & Vogel, G. (2011). Students with disabilities in teacher education: Changes in faculty attitudes toward accommodations over ten years. *International Journal of Special Education*, 26(1), 162–174 Retrieved 17 December 2017 from <http://eric.ed.gov/?id=EJ921202>.
- Lombardi, A. R., Murray, C., & Gerdes, H. (2011). College faculty and inclusive instruction: Self-reported attitudes and actions pertaining to Universal Design. *Journal of Diversity in Higher Education*, 4(4), 250. <http://dx.doi.org/10.1037/a0024961>.
- Lombardi, A., Vukovic, B., & Sala-Bars, I. (2015). International comparisons of inclusive instruction among college faculty in Spain, Canada, and the United States. *Journal of Postsecondary Education and Disability*, 28(4), 447–460 Retrieved February 2, 2017, from <https://eric.ed.gov/?id=EJ1093535>.
- Love, T. S., Kreiser, N., Camargo, E., Grubbs, M. E., Kim, E. J., Burge, P. L., et al. (2015). STEM faculty experiences with students with disabilities at a land grant institution. *Journal of Education and Training Studies*, 3(1), 27–38. <http://dx.doi.org/10.11114/jets.v3i1.573>.
- Madriaga, M., Hanson, K., Heaton, C., Kay, H., Newitt, S., & Walker, A. (2010). Confronting similar challenges? Disabled and non-disabled students' learning and assessment experiences. *Studies in Higher Education*, 35(6), 647–658. <http://dx.doi.org/10.1080/03075070903222633>.
- Messiou, K., Ainscow, M., Echeita, G., Goldrick, S., Hope, M., Paes, I., et al. (2016). Learning from differences: A strategy for teacher development in respect to student diversity. *School Effectiveness and School Improvement*, 27(1), 45–61. <http://dx.doi.org/10.1080/09243453.2014.966726>.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Milic, M., & Dowling, M. (2015). Social support, the presence of barriers and ideas for the future from students with disabilities in the higher education system in Croatia. *Disability & Society*, 30(4), 614–629. <http://dx.doi.org/10.1080/09687599.2015.1037949>.
- Moriña, A. (2017). "We aren't Heroes, we're Survivors:" Higher Education as an Opportunity for Students with Disabilities to Reinvent an Identity. *Journal of Futher and Higher Education*, 41(2), 215–226. <http://dx.doi.org/10.1080/0309877X.2015.1070402>.
- Moriña, A., Cortés, D. M^a, & Molina, V. (2015). What if we could imagine the ideal professor? Proposals for improvement by university students with disabilities. *Teaching and Teacher Education*, 52, 91–98. <http://dx.doi.org/10.1016/j.tate.2015.09.008>.
- Moswela, E., & Mukhopadhyay, S. (2011). Asking for too much? The voices of students with disabilities in Botswana. *Disability & Society*, 26(3), 307–319. <http://dx.doi.org/10.1080/09687599.2011.560414>.
- Mullins, L., & Preyde, M. (2013). The lived experience of students with an invisible disability at a Canadian university. *Disability & Society*, 28(2), 147–160. <http://dx.doi.org/10.1080/09687599.2012.752127>.
- Murray, M., Lombardi, A., & Wren, C. T. (2011). The effects of disability-focused training on the attitudes and perceptions of university staff. *Remedial and Special Education*, 32(4), 290–300. <http://dx.doi.org/10.1177/0741932510362188>.
- Pliner, S. M., & Johnson, J. R. (2004). Historical, theoretical, and foundational principles of universal instructional design in higher education. *Equity & Excellence in Education*, 37(2), 105–113. <http://dx.doi.org/10.1080/10665680490453913>.
- Redpath, J., Kearney, P., Nicholl, P., Mulvenna, M., Wallace, J., & Martin, S. (2013). A qualitative study of the lived experiences of disabled post-transition students in higher education institutions in Northern Ireland. *Studies in Higher Education*, 38(9), 1334–1350. <http://dx.doi.org/10.1080/03075079.2011.622746>.
- Schelly, C. L., Davies, P. L., & Spooner, C. L. (2011). Student perceptions of faculty implementation of universal design for learning. *Journal of Postsecondary Education and Disability*, 24(1), 17–30 Retrieved January 16, 2017, from <https://eric.ed.gov/?id=EJ941729>.
- Shevlin, M., Kenny, M., & McNeela, E. (2004). Participation in higher education for students with disabilities: An Irish perspective. *Disability & Society*, 19(1), 15–30. <http://dx.doi.org/10.1080/0968759032000155604>.
- Simpson, A. (2002). The teachability project: Creating an accessible curriculum for students with disabilities. *Planet*, 6(1), 13–15 Retrieved December 22, 2016, from <http://www.tandfonline.com/doi/abs/10.11120/plan.2002.00060013>.
- Stake, R. E. (2010). Program evaluation particularly responsive evaluation. *Journal of MultiDisciplinary Evaluation*, 7(15), 180–201 Retrieved October 16, 2017, from http://journals.sfu.ca/jmde/index.php/jmde_1/article/view/303.
- Stein, K. F. (2014). Experiences of college students with psychological disabilities: The impact of perceptions of faculty characteristics on academic achievement. *International Journal of Teaching and Learning in Higher Education*, 26(1), 55–65 Retrieved December 4, 2016, from <https://eric.ed.gov/?id=EJ1043011>.
- Strnadová, I., Hájková, V., & Květoňová, L. (2015). Voices of university students with disabilities: Inclusive education on the tertiary level—a reality or a distant dream? *International Journal of Inclusive Education*, 19(10), 1080–1095. <http://dx.doi.org/10.1080/13603116.2015.1037868>.
- Tinklin, T., Riddell, S., & Wilson, A. (2004). Policy and provision for disabled students in higher education in Scotland and England: The current state of play. *Studies in Higher Education*, 29(5), 637–657. <http://dx.doi.org/10.1080/0307507042000261599>.
- Vickerman, P., & Blundell, M. (2010). Hearing the voices of disabled students in higher education. *Disability & Society*, 25(1), 21–32. <http://dx.doi.org/10.1080/09687590903363290>.
- Yssel, N., Pak, N., & Beilke, J. (2016). A door must be opened: Perceptions of students with disabilities in higher education. *International Journal of Disability Development and Education*, 63(3), 384–394. <http://dx.doi.org/10.1080/1034912X.2015.1123232>.

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