

DEAF STUDENTS ACCESSING HIGHER EDUCATION PROGRAMS - ROMANIAN AND EUROPEAN EXPERIENCES

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Abstract

Deaf students in higher education are following courses alongside their hearing peers. When students attend classes, they are expected to listen to the teacher's lecture and when they are together in small groups it is likely to be asked to communicate or to do some collaborative work that involves discussion. For the deaf student these contexts are difficult as they require understanding of academic contents, communication and social interaction. Providing equality of access for all students to the content of courses and seminars requires appropriate support and awareness on the part of academic staff. The purpose of this study is to analyze, from the point of view of deaf and hard of hearing students, the barriers they encounter in higher education programs, the type of support they receive and to identify further ways to address these challenges. Compared with their European peers, Romanian deaf and hard of hearing students reported more academic and relational difficulties. Resources are not always available so these students must cope with the spoken language and communication challenges. Universities also need to be inclusive and proactively find the means to provide the best resources for deaf and hard of hearing students.

Key words: Accommodations; deaf and hard of hearing students; deafness; disability; higher education; support services; university disability services

1. Introduction

Deaf and hard of hearing (DHH) students attending higher education programs face several challenges during their participation to lectures and seminars which impede communication, understanding and learning (Lang, 2002, Noble, 2010). Positive social experiences and academic

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support are valued by deaf students (Hyde et al., 2009). The importance of communication for academic achievement was investigated (Antia, Jones, Reed & Kreimeyer, 2009; Richardson et al., 2010) and studies show that good communicative experience has a significant influence on learning. Available and effective support services for DHH individuals are of major importance for their academic performance (Lang, 2002), but teachers are often unaware of how to adapt instruction and appropriately approach accommodation issues for DHH students (Kermit & Holiman, 2018).

According to Powell (2003) support comes in three forms: human resources; technical aids and advice on teaching styles or useful strategies which can be tailored to meet individual needs. Apart from accessing support, quality and consistency are also important (Cawthon & Leppo, 2013). For the DHH students, the need for accommodations and resources can vary by the type and level of hearing loss or the preferred mode of communication and skills of each individual. Sometimes just amplification is enough but, for a better efficiency, hearing aids or cochlear implants can be used along with other assistive listening devices such as FM or loop systems. DHH students which do not use or do not benefit much from amplification rely more on visual information (using sign language, reading text or lip-reading). Accommodations and services available for instruction can be different according to student's needs, for example accommodations might include interpreting and note taking during lectures, but also extended time or a quiet location for testing.

Interpreting is of major importance for students who communicate better using sign language. Interpreters facilitate communication and understanding of DHH students in educational contexts both with their teachers and with their hearing peers (Antia & Kreimeyer, 2001). Deaf students who depend on sign as a preferred means of communication have greater difficulties than hearing students during lectures and also when studying courses that were delivered in speech-based language (Richardson et al., 2000). In this case it is recommended (Hyde et al., 2016) that interpreting should be provided in combination with other communication and learning support systems in order to provide DHH students with multiple sources of information and learning opportunities. Students preferences for an interpreting style can also differ according to the context. According to Napier and Barker (2004) students are in favor of a free interpreting approach in a more general situation like a social gathering, but in academic lecture situations a literal approach with the use of fingerspelling for technical vocabulary is preferred.

Having a note taker allows deaf students to concentrate at the lecturer's message by listening or lipreading. When other assistive technologies as FM or loop systems are available for those

wearing hearing aids or cochlear implants hearing impaired students are not disadvantaged by the distance from the source of sound. Lartz, Stoner and Stout (2008) found that facilitators to assistive technology use for DHH students are factors as self-advocacy, the use of interpreter and previous experience in using assistive technologies.

Interpreters and note-takers have an important responsibility, students rely on them in order to understand and learn so their efficacy is usually of concern for the students. When interpreters are not experienced and do not have knowledge in the field, according to Richardson, MacLeod-Gallinger and Long (2000), this may lead to difficulties in integrating different contents, especially if teachers are not explicit in clarifying all the aspects of the curriculum.

DHH students in higher educational programs reported difficulties in academic and relational situations. It was found (Hyde, 2009) that deaf students that benefit from accommodations like interpreting or note-taking support, receive less information from lectures and tutorials than their hearing peers. Even deaf students having Sign Language as their first language and receiving high quality interpreting are not equal in terms of understanding and learning compared to their hearing peers (Marschark et al. 2005). Sometimes deaf students come from educational programs whose curriculum may not have been very rigorous (Chute, 2012) and thus have a disadvantage difficult to overcome. For different reasons they face significant barriers in gaining access to information whether in lectures or seminars and develop higher levels of academic anxiety than hearing students (Richardson et al., 2000).

There is also another category of students who are enrolled in higher education institutions and have an undisclosed hearing loss (Richardson, Long & Woodley, 2004). In their surveys the authors identified that these students were mainly hard of hearing rather than deaf, with slight, mild, or moderate loss of hearing affecting one or both ears. Such students do not necessarily identify themselves as belonging to the deaf community, sign language is not their primary language and they do not disclose their disability because they want to be treated like any other student, without special adjustments or accommodations probably fearing labeling or prejudice from teachers or peers. According to Barnard-Brak, Lichtenberger and Lan (2010) accommodation seeking strategies of successful students include: disclosure of one's disability, negotiating accommodations with the faculty and downplaying one's disability status.

Personal factors as motivation for academic study, self-discipline and self-regulation (Albertini, Kelly & Matchett, 2011) can influence deaf students' academic success. Developing skills for success such as good executive functions, excellent time management, ability to assess their weaknesses and strengths (Chute, 2012), makes it easier for DHH students to overcome the

limiting factors that they may encounter in higher educational programs. Nevertheless, these skills seem not to be enough if lecturers have disablist or audiocentric attitudes towards deaf students (Kermit, Holiman, 2018). Teachers' understanding about how their way of teaching can influence students' understanding and learning needs improving so that DHH educational opportunities are optimized. Deaf students value teachers who are willing to adapt instruction, use visual materials, lecture at a good pace, communicate clearly and consider understanding for everyone who attends courses (Lang, Dowaliby & Anderson, 1994).

Sometimes DHH students may not know what accommodations are available (Cawthon, Nichols & Collier, 2009), or may not have the skills to ask for them (Lartz, Stoner & Stout 2008). Although they should be proactive in obtaining assistance sometimes, as noted by Barnard-Brak, Lichtenberger and Lan (2010), students with disabilities are not maximizing the services entitled to them because they are not seeking out these services. It is important that DHH students ask for these accommodations and advocate on their own behalf in order to obtain support services (Hyde et al. 2016) in case they are not available in the university.

Providing access and participation for DHH students to higher education is the logical continuation of inclusion from compulsory schooling. Although barriers to academic success have been identified in higher education programs, Lang (2002) notes that the solutions are not yet implemented on a large scale.

This study attempts to analyze the difficulties that Romanian and European DHH students encounter in higher education programs by answering the following research questions: Are there differences between Romanian and European DHH students in terms of understanding their teachers and their hearing peers? Are there any differences in the services and accommodations available to deaf students in Romania and in the other European Countries? What are deaf students' needs and what are their suggestions for teachers and hearing peers for a better access in higher educational programs?

2. Procedure

Deaf and hard of hearing students from Romanian and European higher educational programs were asked to volunteer for the study. Participants were assured that their individual responses would remain confidential. Questionnaires were distributed both directly and using the mail. The respondents answered in writing using Romanian or English language according to their residence and no sign language interpreting was provided. The students were recruited from the

Romanian deaf community and from the participants at an international seminar of European deaf students.

At the beginning of the questionnaire some socio-demographic data were requested: questions concerning the hearing loss, type of amplification used, preferred mode of communication, accommodations and use of other human or technical support.

Classroom Participation Questionnaire (CPQ) was used (Antia, Sabers & Stinson, 2007). It is an instrument that requests information from the DHH students' perspective. It consists of 28 statements that the student rates on a four-point Likert-like scale (1, almost never; 2, seldom; 3, often; 4, almost always). CPQ comprises four subscales: Understanding Teachers, Understanding Students, Positive Affect and Negative Affect. When completing the questionnaire, students were asked to refer to their academic activity in the higher education program that they were currently following.

The statements were slightly adapted to the academic tasks of a university student, for example instead of homework the word assignment was used. The questionnaire was in Romanian and in English for the two categories of deaf students according to their residence. For each item, they were asked to estimate the extent of their agreement or disagreement with the items.

To obtain a measure of scale reliability, internal consistency coefficients were calculated for the CPQ subscales and data indicates an excellent internal consistency for the subscales: Understanding Teacher .908 Understanding Students .798, Positive Affect .889 and Negative Affect .865.

In addition, the students were asked to answer in writing to four questions in order to identify the difficulties they face in higher educational programs and the solutions they can identify in order to reduce these difficulties. The questions were: What are the main difficulties you face in academic activity at lectures and seminars? What are the main issues that make you uncomfortable in your relationship with students and teachers? What are your main suggestions to teachers for a better inclusion of DHH students in higher education programs? What are your main suggestions to hearing peers for a better academic and social inclusion of DHH students?

3. Results

A number of 29 Romanian DHH students and 34 European DHH students answered the questionnaire. Romanian students' age was from 21 to 47 years old ($M=27.20$, $SD=6.33$) and the

age of the European students was from 19 to 32 years old ($M=24.67$, $SD=4.08$). Other sociodemographic information of the sample is presented in Table 1.

Table 1: Sociodemographic information of the sample

	Romanian DHH students		European DHH students	
	Frequency	Percent	Frequency	Percent
Gender				
Male	10	34.5	12	35.3
Female	19	65.5	22	64.7
Hearing loss degree				
Profound	6	20.7	22	64.7
Severe	15	51.5	8	23.5
Moderate	8	27.6	4	11.8
Type of amplification				
Cochlear implant	3	10.3	6	17.6
Hearing aid	26	89.7	28	82.4

Only few DHH students were comfortable with the spoken mode of communication during lectures and seminars, the rest of the students, however, preferred the use of sign language or a combination of the two. DHH students' preferred mode of communication and the accommodation they received in university are presented in Table 2.

Table 2: Mode of communication at courses and accommodations of DHH students

	Romanian DHH students		European DHH students	
	Frequency	Percent	Frequency	Percent
Mode of communication at courses				
Spoken	5	17.2	4	11.8
Spoken and Sign Language	19	65.5	15	44.1
Only Sign Language	5	17.2	15	44.1
Accommodations				
Assistive listening technology	2	6.9	2	5.9
Interpreting	17	58.6	27	79.4
Note-taking services	6	20.7	14	41.2
Real-time captioning	0	0	5	14.7
Extended time	9	31.0	14	41.2
Other	3	10.3	1	2.9

For the European DHH students, the interpreter is a regular presence during lectures or seminars, while in the case of the Romanian DHH students only a little more than half of them benefited from the support of an interpreter during courses. As can be seen in Figure 1, other accommodations are less present in the case of Romanian students.

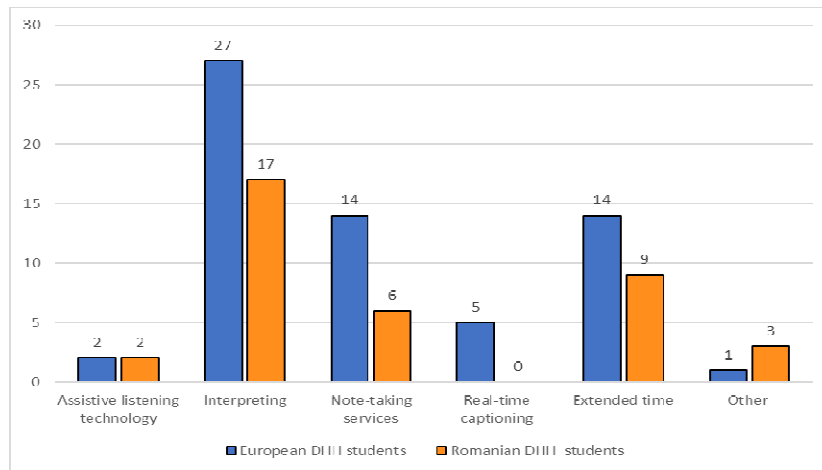


Figure 1. Comparative frequency of accommodations for Romanian and European DHH students

In order to determine if there were differences in Teacher understanding score between Romanian DHH students and European DHH students a Mann-Whitney U test was run. Distributions of the Teacher understanding scores for Romanian and European students were not similar, as assessed by visual inspection. Teacher understanding scores for European DHH students (mean rank = 37.41) were statistically significantly higher than for Romanian DHH students (mean rank = 25.66), $U = 212$, $z = -3.884$, $p < .001$.

A Mann-Whitney U test was run to determine if there were differences in Student understanding score between Romanian and European DHH students. Distributions of Student understanding scores for Romanian and European students were not similar, as assessed by visual inspection. Student understanding score was statistically significantly higher for European DHH students (mean rank = 40.26) were statistically significantly higher than for Romanian DHH students (mean rank = 22.31), $U = 309$, $z = -2.584$, $p = .011$.

A Mann-Whitney U test was run to determine if there were differences in Positive affect score between Romanian DHH students and European DHH students. Distributions of the Positive affect scores for Romanian and European students were similar, as assessed by visual inspection. Positive affect score was not statistically significantly different between Romanian DHH students (Mdn = 2.66) and European DHH students (Mdn = 2.25), $U = 392$, $z = -1.396$, $p = .163$.

A Mann-Whitney U test was run to determine if there were differences in Negative affect score between Romanian DHH students and European DHH students. Distributions of the Negative affect scores for Romanian and European students were similar, as assessed by visual

inspection. Negative affect score was not statistically significantly different between Romanian DHH students (Mdn = 2.77) and European DHH students (Mdn = 2.50), $U = 437$, $z = -.774$, $p = .439$.

In order to see if there is an interaction between the preferred Mode of communication at courses and DHH students' residence on Teacher understanding Anova two-way was used. The assumption of normality for teacher understanding scores was satisfied for all group combinations of Residence and Mode of communication in university, as assessed by visual inspection of their histograms and by Shapiro-Wilk's test ($p > .05$). There was homogeneity of variances, as assessed by Levene's test for equality of variances, $p = .134$. There was no statistically significant interaction between Residence and Mode of communication for Teacher understanding score, $F(2, 57) = .330$, $p = .721$, partial $\eta^2 = .011$.

Therefore, an analysis of the main effect for Residence was performed, which indicated that the main effect was statistically significant, $F(1, 57) = 18.326$, $p < .001$, partial $\eta^2 = .243$. The unweighted marginal means of Teacher understanding scores were 2.557 (SE = .137) for Romanian DHH students and 3.351 (SE = .126) for European DHH students. Romanian DHH students had a mean for Teacher understanding score .794, 95% CI [.423, 1.166] lower than European DHH students, at a statistically significant difference $p < .001$.

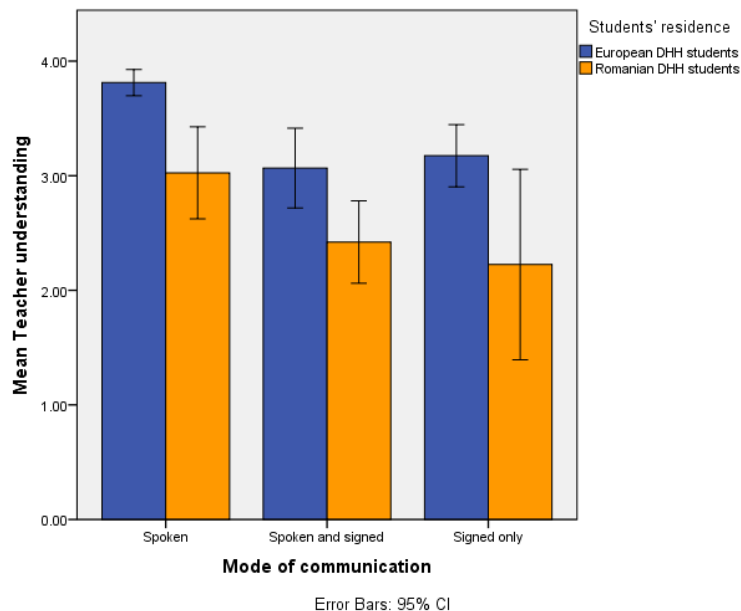


Figure 2. Means of Teacher understanding according to the preferred Mode of communication for European and Romanian DHH students

An analysis of the main effect for Mode of communication was performed, which indicated that the main effect was statistically significant, $F(2, 57) = 4.830$, $p < .001$, partial $\eta^2 = .145$. All pairwise comparisons were run where reported 95% confidence intervals and p-values are Bonferroni-adjusted. The unweighted marginal means of Teacher understanding scores for Spoken, Spoken and sign, and Only sign language for Romanian and European DHH students were 3.419 (SE = .204), 2.744 (SE = .105) and 2.700 (SE = .157), respectively.

Spoken mode of communication was associated with a mean Teacher understanding score .675, 95% CI [.108, 1.241] higher than Spoken and sign language, a statistically significant difference, $p = .014$. Using Spoken mode of communication was also associated with a mean Teacher understanding score .719, 95% CI [.083, 1.354] higher than for using only Sign language, a statistically significant difference, $p = .022$. No significant differences for Teacher understanding were found between using Spoken and sign language or Only sign language for Teacher understanding.

For the qualitative part of the study all the participants' answers to the questions were analyzed and the common themes that emerged are presented below.

The main difficulties DHH students face in academic activities

The European DHH students declared that, although the interpreter is most frequently needed during lectures and seminars, sometimes because of insufficient funding or excessive bureaucracy, interpreters are not available or they are not always present when needed due to difficulties in scheduling. Other issues are interpreters' lack of experience and the difficulty to sign technical terms. Interpreters can make mistakes when explaining concepts because they do not understand all the technical information and students suggested that lip-reading is sometimes useful to complete the message. It is also difficult to follow the interpreter and to take notes, if accommodations received by the students do not include both services.

Accessing the information and understanding were two other important topics. DHH students do not have access all the time to the full extent of content and information. Several times, there was mentioned teaching staff unawareness in relation to difficulties deaf students face in courses. They reported fear of misunderstanding especially in seminar discussion and lectures, but also when a video that has no subtitles was presented. In a small group there is a different dynamic and the interpreter (if there is any) has little time to sign or to speak. For those students with a mild or moderate hearing loss the noisy environment during group discussions creates discomfort

and difficulties in understanding. Time is also an issue; students indicate as main difficulties a short time for group work and no extra time offered for evaluation.

Romanian DHH students reported numerous difficulties in fully accessing the curriculum, but the most important is related to the reduced number of interpreters in higher education programs and their limited experience for this kind of tasks. Romanian Sign Language is still developing and academic words are difficult both for the interpreters and for DHH students. As suggested by Barbu & Chiriac (2012) new projects are necessary for developing Romanian Sign Language. Fingerspelling is one alternative for communicating difficult or technical words but it is time consuming. The lack of interpreters and assistive technologies make lipreading the last resort for those deaf students that are proficient at it, but even this is difficult because sometimes the teacher moves, talks too fast or does not look at the student when speaking. In higher education programs, a great emphasis is placed on the traditional way of lecturing, teachers deliver information without additional visual materials (slides, subtitles, images or any other written support for lectures). Access to spoken communication is difficult without an FM system because of poor acoustics or teachers' soft voice. Romanian DHH students have very few accommodations and they have to rely more on the teaching staff, who are sometimes willing to facilitate communication and understanding. Romanian DHH students are content to have an interpreter and usually do not have additional requests or complaints related to his/ her activity.

The main difficulties DHH students face in relating and communicating with teachers and their hearing peers

European DHH students declared that they have frequently experienced discrimination, felt that they were not equally valued compared to the rest of the students and this impacted on their self-esteem. Sometimes, even if teachers know about their disability they do not seem to care much, and do not respond adequately to deaf students' needs. Some hearing teachers and students believe that if a DHH student can speak and has good oral skills he or she can hear and understand spoken language as well, but it is not always the case. Only few DHH students, especially those with moderate hearing loss and better communication skills declared that they never felt discomfort when communicating with teachers or with their peers. Teachers and students have little knowledge about deafness. Attitudinal and relational aspects cause Romanian DHH students to feel isolated and they do not dare ask questions when they do not understand. Relationships with hearing peers are different from case to case, the respondents mentioned that there are some hearing students that are willing to help, and others that do not care. Because

interpreters are not available in all social and academic encounters, communication usually makes deaf students uncomfortable.

Main suggestions for the teaching staff in order to better respond to the academic needs of DHH students

The main suggestions for the teachers were grouped into the following area: deaf awareness, teaching strategies and listening to deaf students' voice. DHH students would like teachers to show more interest and put more effort in understanding deaf people and deaf culture. If the interpreter is not present during lectures, the teacher could: better articulate, speak louder, speak in front of the deaf student, write important words, check if significant issues were understood. Even when the interpreter is present, more visual information and clear speaking are facilitating understanding. During seminars, it was suggested the use of group management strategies so that DHH students get involved in conversation and contribute to the activity, for example: limiting the amount of group work, or working in smaller groups for a better communication, sitting in a circle so students could see each other, taking turns (only one person speaks at a time), slow the pace of the conversation and give extra time for listening to the tasks and think about the answer. Another topic was about listening to the deaf students' voices because usually they know better what works for them and so, individualized, more efficient solutions could be found. It is also possible to use the suggestions of deaf university teachers. According to Smith and Andrews (2015) the number of DHH individuals with doctoral degrees and academics internationally is growing and in some higher education programs, this is a resource that might be used in order to help deaf students.

Romanian DHH students made clear suggestions for the presence of interpreters, use of more visual support, use of subtitles, receiving notes in advance and note-taking services. Teaching staff should be aware that deaf students are attending courses and acknowledge their different needs. An open attitude towards diversity would be helpful as well as knowing some basic strategies that facilitate understanding and learning for deaf students. Receiving support services and accommodations for all the higher education students with disabilities, not just for the deaf, was also a request, such services being in an incipient state in many Romanian universities.

Main suggestions to hearing peers for a better social inclusion of DHH students

The main suggestions for the hearing peers were grouped in two important areas: understanding the deaf culture and willingness to communicate. Prejudice is a barrier for communication so deaf awareness, information about the deaf culture could be useful for a more inclusive environment.

Hearing students should try to communicate even when there are no interpreters to help: better articulating or writing could be possible solutions. They should also have a slower pace in discussions and give the deaf student time to answer. It was suggested that hearing students should not judge quickly, should manifest patience and not easily give up communicating with deaf students. Trying to empathize with DHH students is seen as a facilitator, hearing students should understand that sometimes deaf students might be afraid of communication, feel uncomfortable in group discussions or prefer only short information.

Romanian DHH students gave shorter answers but the keywords were patience, acceptance and understanding. According to their suggestions, a special attention should be paid for better lipreading conditions, light, distance, clear speaking; writing could be used as an alternative to spoken language, and it was suggested that hearing students could learn basic sign language.

Even if not asked for, some European respondents also wrote in their answers some suggestions for the deaf students. They considered that DHH students should be more courageous in choosing a university regardless of the presence of other deaf students or accommodations for them. Deaf students should follow their goal, be assertive and demand for their rights to be respected, even if this means to write a petition or a complaint letter. Only one answer focused on self-advocacy, in the Romanian DHH students' group: deaf students should not accept to be intimidated, they should be daring, assertive, explain their difficulties and ask for their rights.

One limitation of the study is due to the sample size. Another issue is that DHH students answered based on their own understanding of the written questions which might have been difficult for some respondents as no Sign Language interpretation was provided. Another limitation of the study is inherent to qualitative research so the findings based on students' answers should be used with caution when trying to generalize results.

4. Discussions and conclusions

The present study investigated the experiences of Romanian and European students who are deaf or hard of hearing. One finding is that Romanian DHH students have less support and accommodations compared to European DHH students in higher education programs. Teacher understanding and student understanding are significantly lower in the case of Romanian DHH students. Following the analysis of students' answers to questions, another finding was that European DHH students have proven a better ability to express themselves in writing. Their answers were more detailed and they wrote in English more fluently than the Romanian students

wrote in Romanian. European students also have a wider range of suggestions, they seem to be more willing to demand their rights, to ask for accommodations and advocate for themselves.

At the institutional level access means, according to Cawthon and Leppo (2013), availability of interpreters or other accommodations. One difficulty, as Barnard-Brak, Lichtenberger and Lan (2010) point out is that higher education institutions are not asked to identify students with disabilities, so if DHH students do not request support services, they do not receive the necessary accommodations.

Although it seems the most used resource to support DHH students is interpretation, it also has some limits, both academic and social. Similar results were found in other studies. Deaf students acquire less from interpreted lectures, compared to their hearing peers (Marschark et al., 2005) and it was reported that interpreting did not provide them full access in educational settings (Napier & Barker, 2004).

DHH students should be given the opportunity to choose, from a wider range of accommodations, those that best suit their needs. Most of the respondents from our study requested more visual information. According to Kermit and Holiman (2018) visually oriented instruction and intercultural communication seem to be important for the DHH students' perceived inclusion. Just a few Romanian DHH students benefit from accommodations and the barriers they encounter are greater compared to their European counterparts. In Romania it seems that many DHH students are still learning basic skills in order to advocate for themselves. It is important that students know how to receive accommodations (Cawthon & Leppo, 2013) and also how to advocate for themselves (Chute, 2012).

Listening to deaf students' suggestions is also necessary. Hearing people, although well meaning, cannot fully understand the difficulties DHH face daily. The most appropriate solutions should be found together. Komesaroff (2005) suggests to include deaf people's voices in the university in order to make changes that may allow students to better engage with the curriculum.

Higher education programs do not always offer deaf students all the opportunities and support services for academic inclusion. Besides, deaf students also feel the need for social inclusion. In our study, DHH students reported negative feelings in communication contexts and described social situations as uncomfortable. Similar findings were reported by Powell, Hyde and Punch (2014), deaf students have difficulties with academic and social interactions, and they have a certain amount of dissatisfaction in the area of social interaction with the hearing peers. Social integration of DHH students is more difficult to obtain even in settings designed especially for

the inclusion of deaf students (Brown & Foster, 1991). Powell (2003) suggests that, if the number of deaf students in a university is very small, it is possible to offer academic support, but social inclusion may be more difficult to attain. In such cases, that in fact can be quite frequent; Powell, Hyde and Punch (2014) recommend that institutions should empower DHH students to be independent and resilient alongside with providing them the required accommodations.

In Romania, students with disabilities generally face numerous difficulties in higher educational programs (Vrășmaș, 2014). Although teachers' attitudes are important for a better inclusion, it seems that Romanian academic teaching staff has a low level of knowledge regarding the special needs of students with disabilities and a low level of familiarity with the national and university laws and regulations concerning accessibility in higher education (Costea-Bărluțiu & Rusu, 2015). According to the statistical findings and students' answers and suggestions we can conclude that many Romanian higher education institutions are not yet well prepared in policy and practice to provide adequate accommodations and academic support for DHH students.

It is very likely that the number of deaf students will grow in the future, and institutional but also national responses to the learning needs of DHH students are a possible solution (Hyde et al. 2016). Universities need to take the necessary steps to include deaf students and improve the support provided to them in order to have a positive influence on their overall academic and social experience.

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