Student conceptions of assessment accommodations in university mathematics: an analysis of power

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This study investigates the power relations that underlie assessment accommodations in the context of university mathematics. Assessment accommodations, such as extended testing time, have been claimed to be controversial and even discriminatory. This study approaches these practices through the viewpoint of power and governmentality to understand their sociocultural nature. Nine mathematics students with special needs were interviewed to give them a voice over their own accommodations. The analysis used three contrasting notions of power (sovereign, epistemological, and disciplinary power). The students understood assessment accommodations as unfair practices, which represents unilateral sovereign power. Epistemological and disciplinary power could be identified when the students normalised mathematical assessment, and in the ways the accommodations constructed exclusion. This study highlights the importance of understanding power in the context of assessment accommodations, to shed light on the power structures that might create inequity and injustice in mathematics assessment.

Higher education studies have traditionally identified assessment as an interesting context for examining power structures (Nieminen, 2020); assessment has even been recognised as the "primary location for power relations" (Reynolds & Trehan, 2000, p. 267) as well as the main factor in students' learning and studying (e.g. Asikainen et al., 2013; Segers & Dochy, 2006). Tan (2012) points out that examinations and testing situations have been identified as acts that might be seen as exercising power against students. Therefore, as the assessment culture of university mathematics has been reported to be highly based on closed-book exams (Iannone & Simpson, 2011, 2015; Nieminen, 2020) it is especially important to understand power relations in this field.

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The present study applies the framework of power in the context of special needs in mathematics. In the field of mathematics education, there has been a call for more research that treats students with special needs as doers and thinkers of mathematics, rather than focusing on their deficits (Tan & Kastberg, 2017). According to Tan and Kastberg, students with special needs are often marginalised in mathematics educational research. This study answers their call by observing power in relation to the related assessment practices in university mathematics through the students' own voice; not only teachers but also students bring their learned notions of behaviour and power relations into the assessment process, which is why this perspective cannot be ignored (Tan, 2004). This study focuses on the assessment practices designed for students with special needs: Assessment accommodations.

Assessment accommodations

To ensure that students with various kinds of special needs are able to participate in assessment practices in higher education, assessment accommodations, such as extra time during examinations, are offered. Assessment accommodations are meant to reduce construct-irrelevant variance caused by an individual's disability (Gregg, 2012). They are often claimed to aim to promote the accessibility of assessment by allowing students with special needs to demonstrate their knowledge equally with their peers (Ofiesh, 2007). However, they often raise issues of fairness and lowering academic standards (Lovett & Lewandowski, 2015; Weis et al., 2016). The view by Cohen and colleagues (2005) represents the common view of assessment accommodations: they should be understood as "simply the tools for accessing or demonstrating knowledge, no different than reading glasses" (p. 232). This kind of view sees assessment accommodations as neutral help for students who need them.

The most common assessment accommodations in higher education are related to presentation, response, scheduling, and setting (Gregg, 2009; Gregg & Nelson, 2012). Presentation accommodations offer information through alternative means (e.g. read-alouds, adjusted font format) whereas response accommodations enable students to produce information through alternative means (e.g. through oral response or using assistive technology). Scheduling and setting accommodations adjust the time and location of assessment. In the field of postsecondary mathematics, extended testing time is the most often offered accommodation (Ofiesh, 2007). In addition, Ofiesh lists computer-aided instruction and the use of calculators as mathematics-specific assessment accommodations in

higher education. Recorded text has been also introduced as a successful accommodation in postsecondary mathematics (Calhoon et al., 2000).

A socio-cultural perspective: A simple menu of services?

"The use of testing accommodations may seem, at first, a simple and effective way to help students with disabilities demonstrate their true knowledge on a test. However, the use of accommodations is anything but simple." (McKevitt et al., 2013, p. 732). This study approaches assessment accommodations through a socio-cultural perspective. Contrary to seeing such accommodations as simple reading glasses (Cohen et al., 2005) or a menu of services (Kurth & Mellard, 2006), this study conceptualises assessment accommodations as socio-cultural practices. It has been suggested that the biggest issue regarding assessment accommodations in higher education is the lack of evidence-based research and further understanding of the effectiveness of their practices (for a review see Lovett & Lewandowski, 2015). The lack of scientific knowledge in this field is reflected in practice: Weis and colleagues (2016) argue that decisions regarding students' accommodations often lack evidence to support this provision. It is also known that these decisions are based on a low level of interaction between instructors and students (Cawthon & Cole, 2010).

A socio-cultural approach to assessment accommodations cannot completely ignore the viewpoint of the students themselves. Indeed, some scholars (e.g. Kurth & Mellard, 2006; Skinner, 2004) have noted that the voice of students using assessment accommodations should be heard in both research and practice. Even though personal experiences of single accommodations vary and might even be positive, the literature has widely reported students with disabilities expressing their concerns regarding systemic issues of assessment accommodations (Bolt et al., 2011; Cawthon & Cole, 2010; Getzel, 2008; Kurth & Mellard, 2006). In the present study, three of the major systemic issues as continuously reported in earlier literature are presented: gatekeepers, disclosure, and stigma. These three terms form the glossary of this study; later they are used to further understand the systemic issues concerning assessment accommodations through the theoretical frameworks of power.

Gatekeepers

Every decision on assessment accommodations is based on whether the student is justified to use accommodations. In higher education, this decision is usually made by instructors or disability service workers (or *gatekeepers*; Becker & Palladino, 2016) and is often based on the recommendations of clinicians. Some kind of disability documentation

is usually needed when communicating the need for accommodations. Based on these, the gatekeepers choose whether access to assessment accommodations is granted. The exact mechanisms for providing access to assessment accommodations vary globally on the basis of national legislation and institutions' policies. However, clearly the most common practice in higher education is that students need to "pass" (Becker & Palladino, 2016, p. 65) certain staff members to access assessment accommodations, rather than access them automatically with no kind of process. These gatekeepers decide whether access to assessment accommodations is granted and what type the accommodations are. Ideally they reflect the norms and regulations of the educational institution.

As Bolt and colleagues (2011) report, having to obtain a medical document and then submit it by formal protocol through gatekeepers might prevent students asking for assessment accommodations. Previously it has been reported that about a fifth of students needing accommodations might have difficulties obtaining them (Cawthon & Cole, 2010). The concept of non-accommodations has been reported in situations where the teacher or instructor acts as a gatekeeper and declines the request for accommodations (Quinlan et al., 2012). Often, the role of gatekeepers in maintaining *fairness* of assessment is highlighted. For example, an article from the field of university mathematics asked instructors governing assessment accommodations not to simply comply when accommodations are applied for, since they might lower the academic standards of students asking for them and therefore cause an unfair situation (Acker et al., 2009). To conclude, gatekeepers play a huge role in the process of governing assessment accommodations for students with special needs.

Disclosure

To be able to access the accommodations they need, students must disclose their disability. If disabilities are invisible and not observable from the outside (e.g. learning disabilities, as often in the case of higher education), requiring students to disclose their status is far from a neutral act. Indeed, disclosure has been seen as the main reason for students with disabilities not applying for assessment accommodations (Marshak et al., 2010). They might not want to disclose their disability for fear of being labelled (Getzel, 2008). Barnak-Brak and colleagues (2010a) use the term *downplaying* for when a student uses the minimalization of their disability status as a key strategy when applying for assessment accommodations. Even nondisclosure has been reported as a strategy in literature. For example, in Denhart's study (2008), nine of the ten participants were reluctant to use assessment accommodations even though they needed them. Negative responses and attitudes from staff members

have also been reported when students have disclosed their disability (Barnard-Brak et al., 2010b).

Stigma

Closely related to the issue of disclosure, the fear of stigmatisation has been reported as preventing students from requesting assessment accommodations (Kendall, 2016; Lightner et al., 2012; Marshak et al., 2010). Stigma refers to both inter- and intrapersonal factors and comprises strong negative attitudes towards disabilities (Lightner et al., 2012). As May and Stone (2010) showed, attitudes towards students with disabilities in higher education are often very negative and based on stereotypes. In their study, the students with no disabilities largely saw students with disabilities as lazy; as lying and taking advantage of accommodations. Thus, the fear of stigma remains a real challenge for students who need accommodations.

Theoretical framework: assessment and power

Previous literature on the discriminatory element of assessment accommodations calls for further understanding of them as socio-cultural practices (see Cawthon & Cole, 2010). Here, a critical approach is conducted through the analysis of power to understand students' experiences of assessment accommodations in university mathematics. This study relies on three different notions of power, as summarized by Tan (2004, 2012): sovereign, epistemological, and disciplinary power. These conceptualisations of power have been applied in the field of assessment in higher education (e.g. Tan, 2004; Taras, 2016). However, to the author's knowledge, assessment accommodations have not been observed through this framework before. Each of the three notions offers a different conceptual lens. Even though they overlap and intertwine, each of them offers a unique way in which to understand power.

Sovereign power

Sovereign power refers to the "traditional" idea of historical power, which is based on the unilateral power relation between sovereign rulers and subjects (Patton, 2012; Tan, 2004). In the field of assessment research, the notion of sovereign power has been applied to describe the unilateral power that teachers wield over their students (Reynolds & Trehan, 2000). This kind of power exists in episodic and interpersonal acts (Clegg, 1989), which makes it rather simple to recognise and analyse. Sovereign power has even been characterised as a "straightforward

conceptualisation" (Patton, 2012, p. 722) that offers a limited view for analysing power. However, it serves as a great way to start a discussion on assessment accommodations, as university staff have the ultimate power of deciding whether a student with special needs is entitled to use accommodations, acting as gatekeepers.

Tan (2004, 2012) argues that sovereign power resides in one individual actor at any given point in time – this kind of power can only be surrendered to other actors, never shared. One is either a ruler wielding the power or a subject who responds to it (Tan, 2012). In the context of assessment accommodations, power can only be held by two parties: either teachers (or other staff members) or students. As sovereign power cannot be shared, issues might arise when students have no power over their own assessment accommodations.

Epistemological power

In contrast to the notion of sovereign power, epistemological power is not limited to interpersonal acts but "affects teachers and students in the broader politics of institutions" (Tan, 2004, p. 654). According to Taras (2016), epistemological power can be seen when institutions work as "administrative engines" behind teachers' actions and students' learning. In the field of assessment, epistemological power is connected to the idea of what can be assessed and how (Tan, 2004). When the nature of a certain assessment practice is taken for granted, this serves as a part of an *institutional epistemology* (Hanafin et al., 2007). Thus, the analysis of epistemological power does not only concern interpersonal acts, but also how certain institutional epistemologies are constructed. Various actors such as teachers and students might have different kinds of epistemological power and different institutional opportunities to wield it. In the present study, university mathematics acts as a context that defines how mathematical knowledge should be assessed and how assessment accommodations should be administered.

Epistemological power is not wielded by teachers; teachers themselves are subject to it (Tan, 2004, 2012). Therefore, power is not simply something that teachers should surrender to students to "empower" them. Tan (2012) points out that epistemological power might restrict teachers when they choose how to assess their students. For example, if teachers try to introduce alternative assessment practices in university mathematics, they might encounter resistance because there is a strong mutual understanding of how mathematics should be assessed – which is mainly through exams (e.g. Iannone & Simpson, 2011, 2015). Obviously, which assessment practices can be used is a question affected by larger

political and economic factors, and this makes the analysis of epistemological power even more complex; policy-makers, for example, might have an influence on institutional epistemologies. From the viewpoint of epistemological power, assessment accommodations are not simply practices during which teachers have power and students do not. Instead, both groups operate under the power of the assessment culture and institutional norms and regulations that restrict the view of how mathematics assessment should and can be conducted (Nieminen, 2020).

Disciplinary power

The notion of disciplinary power strongly relies on Foucault's (1977) idea of discourses, which are "practices that systematically form the objects of which they speak [...] Discourses are not about objects, they constitute them and in the practice of doing so conceal their own invention" (p. 49). According to Foucault, discourses produce meaning and knowledge, and therefore, he conceptualises power *as* knowledge. Discourses produce normality and form our thoughts regarding what can be taken for granted through social and cultural practices (Foucault, 1977, 1990). Disciplinary power arises from discourses that are productive but not solely oppressive (Gore, 1995) – discourses produce meaning and knowledge, which are connected with power according to Foucault (1977, 1990). The notion of disciplinary power does not see power as stagnating but rather as circulating and functioning, being constantly in flux (Foucault, 1982). Foucault (1977) argues that discourses render us governable through social practices based on measurement, categorisation and normalisation. These mechanisms have previously been connected to various assessment practices such as self- and peer-assessment (Patton, 2012; Tan, 2004), but not to assessment accommodations. How assessment categorises and produces the idea of *what is normal* lies at the core of analysing discourses in relation to assessment. Since mathematical positions are formed through power and through the discourses in which students take part (e.g. Lambert, 2017), it is crucial to understand assessment practices through the lens of disciplinary power.

Foucault (1977) proposes that we must move forward from investigating dyadic power relations, and instead focus on analysing power in institutions, which are so often labelled as "humane". The analysis of disciplinary power is not based on observing who possesses power and how much, nor is it about understanding institutional epistemologies. From the perspective of disciplinary power, power cannot be simply located and measured, the mechanisms of how certain social practices produce power relations can be identified (Öhman, 2010). Discourses produce

information not only on what can be said and thought but also on who can speak up and how – asymmetrical power relations are found when only certain agents have access to certain discourses (Foucault, 1977, 1982). Thus, examining issues of disciplinary power focuses on analysing the mechanisms of how power is produced and what kinds of socio-cultural practices that actualise these asymmetrical power relations (Gore, 1995). In terms of assessment accommodations, this would mean observing if and in what ways they are connected with the mechanisms of normalisation and categorisation. Whether disciplinary power over assessment accommodations is oppressive depends on what kind of discourses are made available for the students (cf. Nieminen, 2020).

Objectives of the study

The discriminatory element of accommodations has been reported in the previous literature (e.g. Lightner et al., 2012; Marshak et al., 2010). However, earlier studies have not observed power relations regarding assessment accommodations by reframing them as socio-cultural practices. This study seeks to understand the power relations that underlie assessment accommodations in the context of university mathematics. The objective is to hear the voice of students with special needs and to examine their experiences of assessment accommodations. This study utilises the three notions of power (sovereign, epistemology, and disciplinary) as summarised by Tan (2004, 2012) to further analyse students' conceptions of assessment accommodations. The broader objective of the study is to expand the theory on assessment and power to the field of assessment accommodations. The research question is:

> What kinds of broader conceptions do students have regarding assessment accommodations and how do these conceptions reflect the three notions of power?

In other words, the study seeks to determine how power is manifested in the context of assessment accommodations, as observed through the three different perspectives.

Context of the study

The study was conducted at the mathematics department in a research-intensive university in Finland. The Non-discrimination act (1324/2014) provides a legal base for students to gain access to "reasonable adjustments", offered by higher educational institutes (15 §). Also, the Universities act (558/2009) provides accessible arrangements for applicants during

the application phase. Every student has the right to a "safe learning environment" that does not "hinder progress during studies" (41a §) – more precisely, universities have the power to adopt rules and regulations that aim to build a "pleasant university community" by "including provisions on the practical arrangements". Thus, universities have a great deal of autonomy in deciding how to deal with students who might need accommodations. It should also be noted that Finnish university teachers have a lot of autonomy in which assessment practices to use, as the Universities Act provides academic freedom for university teachers. This means that assessment accommodations are also often decided by the teachers. The university does not have a disability centre, but each of its campuses has a designated accessibility contact person whom teachers can contact if in need of support.

At this university, the students themselves are responsible for applying for the accommodations they need. The university website has a guide for students with special needs that provides some important email addresses (e.g. the accessibility specialist of the university). Assessment accommodations are offered to students who have a "sufficient and certified reason and a real need to use accommodations". The accessibility specialist of the university can be contacted in need of accommodations. However, in terms of individual university courses, the university website guides students in need of assessment accommodations to directly contact the teachers of these specific courses.

Methodology

Participants

An advertisement of the study was sent to the mathematics department's student email list and to the student organisation's email list. It informed the recipients that the project was looking for students with any kinds of difficulties in their studies (dyslexia and learning disabilities in general were given as examples) to participate in an interview. A movie ticket was given in return for participating in the interview.

Overall, ten students were interviewed. This study included nine of those students who had a diagnosis or a medical document on their status to receive access to the assessment accommodations (table 1). Of these, six had used assessment accommodations during their studies (A1–A6), whereas three (N1–N3) had chosen not to. Disability statuses are reported in table 1 – various types of dyslexia and mental health issues were represented. Each student could decide on how much they shared about their condition, and this choice was respected. Descriptions of

the individual students are not reported, due to anonymity issues. Their age varied between 20 and 40, the majority being under 25. All of them except one majored in mathematics; A3 majored in computer science but was studying mathematics as a minor. This study refers to the students by their id code (table 1). The gender neutral pronouns they/them are used throughout the text.

Table 1. *Participants of the study*

id	Disability status	Assessment accommodations
A1	dyslexia	Extra time, computer in exams
A2	dyslexia	Extra time
A3	panic disorder	Extra time, private room
A4	dyslexia	Extra time
A5	dyslexia	Extra time, private room
A6	dyslexia	Extra time
N1	depression	
N2	dyslexia	
N3	depression	

Data collection and analysis methods

The data was collected in 2018 as a part of a project on students' experiences of studying mathematics while having special needs. Data inquiry was based on semi-structured interviews (Cohen et al., 2007). The questions concerned the students' experiences of studying mathematics and the possible barriers related to their special needs. The students were asked about whether they had used assessment accommodations during their studies and how they felt about using them. The interviews varied greatly in content and in length according to the themes the students wanted to bring up themselves (from 34 minutes to 74 minutes, the average being 56 minutes). A research assistant specialising in transcription transcribed them using discussion analytic coding. The data were stored on a USB drive in a closed cabinet to which only the researcher had access.

The analysis consisted of two cycles. During the first data-driven analysis cycle, the data were analysed using thematic analysis (DeSantis & Ugarriza, 2000; Ryan & Bernard, 2003; Saldaña, 2016). According to DeSantis and Ugarriza, theme is a concept that "captures and unifies

the nature or basis of the experience into a meaningful whole" (p. 362). The data were carefully read through several times, and the parts in which students talked about assessment accommodations were divided into analysis units by theming; we coded each unit according to its theme by labelling it with a short sentence. To ensure that the students' own voice was heard throughout the process, in vivo coding (Charmaz, 2006) was combined with theming. In other words, we coded each analysis unit using the students' own words whenever possible. This led to 154 units, whose length varied from 5 to 229 words, the average being 66 words. After this, the data were initially categorised by connecting the themes that shared the same elements. This process produced several meta-themes. For example, the meta-theme "Assessment accommodations are not the support that students most need" included themes such as "I would have needed extra support with learning during the course".

The second analysis cycle was based on theory-based elaborative coding (Auerbach & Silverstein, 2003; Saldaña, 2016). Elaborative coding aims to further develop previous theory on power through a qualitative coding process. This was achieved by re-coding and re-grouping the themes and meta-themes of the first analysis cycle from the viewpoint of power. Therefore, each of the notions of power were used as theoretical frames to further understand the students' conceptions of assessment accommodations by conceptualising the data-driven themes and meta-themes through these frames. For example, the theme "I would have needed extra support with learning during the course" was re-coded through the framework of epistemological power as "Other kinds of supporting practices are not part of the institutional epistemology". The concepts of gatekeepers, disclosure and stigma were used in the analysis to further conceptualise the data-driven themes and meta-themes. The goal of this elaborative coding cycle was to produce new theoretical knowledge by observing the three notions of power in the new context of assessment accommodations. The second analysis cycle was repeated until the regrouped themes produced coherent categories that represented the conceptions of assessment accommodations.

Findings

The second analysis resulted in three conceptions of assessment accommodations that reflected both students' experiences and the three theoretical frameworks of power. Their connections to the three notions of power (sovereign, epistemological, and disciplinary) are introduced below.

Sovereign power

Students' negative experiences framed assessment accommodations as unfair and even discriminatory practices. These experiences built a conception of assessment accommodations as *an assessment game*, guarded by gatekeepers who chose the rules of the game. This conception reflected sovereign power; the use of power was identified in interpersonal acts during which the students could only act as recipients responding to power or the rules (Tan, 2012).

Using or not using assessment accommodations was often connected with feelings of shame and embarrassment. For example, A1 described a situation in which they were doing a course exam in a lecture hall on a computer. Before the exam started, they needed to find a socket for their computer; however, there were not many sockets in the hall and they were situated under the seats. Therefore, A1 needed to ask many students whether they could move from their seats, which demanded an embarrassing disclosure. Three students described having experienced inappropriate behaviour from staff towards their special needs. The students also noted that when given a private room, all the students needing accommodations were often placed in the same room. Thus, everyone had to disclose that they had some kind of medical condition that required the use of assessment accommodations. These negative experiences view assessment accommodations as discriminatory practices drawing on unilateral power wielded by teachers. The students who needed assessment accommodations had to obey, having no power in the assessment process.

A5: I've felt shame during mass exams. Sometimes I've only used extra time, not a private room. And then when everyone else leaves ... everyone kind of sees you at that point and thinks that, well, that one must have some kind of problem.

A6: Sometimes I've not used them [assessment accommodations] because. Well. Sometimes I'm the only one there [in a private room]. And the exam paper might get forgotten. Or lost. The teacher might overlook to my exam because it's done in a different place. So, I've started attending normal exams [without a private room].

Sovereign, unilateral power was also identified in the students' experiences of having to pass gatekeepers to access assessment accommodations. This process involved obtaining a medical document and then presenting it to the gatekeepers. The price in this kind of an assessment game is *disclosure* and, further, *stigmatisation*. Sovereign power was identified when students, if they wanted to gain access to assessment accommodations, could only respond to the unilateral power relation by paying the price of disclosure and further stigma. This can be seen in the following quotes.

A3: [While applying for assessment accommodations] There's this webpage where you have to register. You have to write a report. It's pretty hard to write something that delicate about myself to a stranger online.

N1: It [mental health] is something that I don't like to talk about. So, I haven't told anyone about it ... well, there's humiliation related to it. And a feeling that it has to be hidden.

The effects of the changing rules of the assessment game (e.g. new institutional guidelines) were clearly seen in the students' lives. For example, sometimes practical issues made it impossible to even apply for assessment accommodations. These situations framed the students as powerless agents in their own assessment process – they had no sovereign role in creating the rules of the game. For example, A6 describes their process of trying to get access to assessment accommodations during summer courses.

A6: In some cases, it's not possible to get them [assessment accommodations]. For example, during the summer [when there's less staff working]. I've asked student services about this. They've said that it's not possible to get a private room ... there are no resources.

Finally, not all the students had the resources to play the assessment game with all its costs. In these cases, no access to assessment accommodations was provided. N2 described this kind of situation.

N2: And sometimes it's so hard to ask for help. Well. You'd rather just give up than ask for help to survive the situation [of needing assessment accommodations].

Epistemological power

To identify epistemological power, the second analysis cycle looked for student experiences that took the role of assessment accommodations in mathematics education for granted, as Hanafin and colleagues (2007) also highlight. This was seen in the students' descriptions of oppressive experiences of assessment accommodations but did not actually suggest that assessment practices should change. This conception was named "Assessment accommodations as a crucial part of mathematics education". It is built on the idea that as mathematics has to be assessed by exams, there must be assessment accommodations for those who need them.

Overall, the exam-driven assessment culture was problematised. The students both using and not using assessment accommodations reported that traditional exams are not the best way for them to demonstrate their mathematical skills. This can clearly be seen in the following accounts.

A3: And then you just return an empty paper [at the examination], even though you've completed all the course tasks. You just can't cope in there.

N1: The exams. Well. It depends on whether I'm dealing with my depression at the time. I flunked the functional analysis exam just because of my depression.

Negative experiences, as depicted above, were not followed by criticism of current assessment practices, rather, the students shared a strong epistemological belief that mathematics assessment must be based on examinations. Still, five of the students wished that mathematics assessment practices could be more diverse to reduce the need for accommodations. None of them wanted to replace exams with other kinds of assessment practices, but they hoped for more assessment practice choices. Examples of alternative ways that could be chosen by anyone were essay writing (A5) and group work (A4). However, some of the students explained that these practices would not suit the assessment culture of mathematics and/or higher education. These kinds of accounts were connected with the idea of *institutional epistemologies*: what kind of assessment can be conducted in mathematics? The citations below show that the students understood how epistemological power also binds staff.

A6: I just wish there were alternative assessment practices alongside the traditional ones. I mean, of course we'll never get rid of exams. But maybe something alongside them.

N3: Somehow, when I think about these years, I feel like no one cares and no one tells you what it's like to study if you have depression. Or learning disabilities. [...] I don't think that the purpose of university is to take care of students and support them. But I would have needed a person who cared.

Many of the students stated that mathematics assessment has to be based on *fairness*. Assessment accommodations must be offered, but only for those who truly need them. Fair assessment was seen to mean the same mathematical requirements for everyone. The role of assessment accommodations was to help everyone reach those requirements – but no more than that. Fairness was understood as an important part of institutional epistemologies. The students' accounts saw the choices of assessment practices as restricted.

A4: But then again, if the content is made easier [through assessment accommodations], then other students might use them as well and cut corners.

Int.: Were there any courses during which your dyslexia was taken into account?

A1: Well, it's never really been taken into account [laughs]. The requirements are the same for everyone. The exam is when it is.

This conception of assessment accommodations built an image of an institutional epistemology in which support for students with disabilities is abridged to accommodations. This was further highlighted by the students largely reporting that assessment accommodations are not the support they need the most. Many students recounted how they wished their situation to be considered in other ways, such as tutoring (A1) and that more services would be given by a study psychologist (A3). Therefore, institutional epistemologies restricted the support mechanisms that were offered, which was seen in the students' accounts.

A4: It's so good to have the extra time during an exam. But then again, I kind of feel that it's never taken into account how much more time we have to use when we work at home. The biggest pain in the neck is the amount of time I have to spend on mathematical tasks at home.

N2: The university could be more active somehow. It could try to offer support. That would have helped me. [...] Disclosing [your dyslexia] might not be easy for everyone, so support should be more easily available. It would help if support was even pushed a little.

Disciplinary power

The third conception of assessment accommodations consisted of student experiences of inclusion and exclusion. The analysis looked for asymmetrical power relations in how the students categorised themselves in relation to other students and what the role of assessment accommodations was in the process. Here, power was not only found in interpersonal acts (sovereign power) or in the overall assessment culture (epistemological power). Disciplinary power was also manifested when the students distanced themselves from the overall student population through normalisation and categorisation made possible by assessment accommodations. The name "Assessment accommodations constructing inclusion/exclusion" highlights the productive nature of disciplinary power.

The students largely framed examinations as a *normal* form of assessment, whereas assessment accommodations were seen as something abnormal. This was clear in the way the students talked about themselves in comparison to *normal* students. These experiences constructed a line between the normal students and the users of assessment accommodations, who were *special cases*. From this perspective, assessment accommodations were not framed as pedagogical practices but as *help* or *medicine*. They came under two categories, normal and abnormal students; but the difference between the groups was not symmetric, because one group demanded help and the other one did not. The students described

assessment accommodations as ”a protection” (A2), ”special treatment” (A3) and a tool for ”survival in exams” (A6). From the viewpoint of disciplinary power, these kinds of accounts do not reflect mere stigmatisation, but also a deep kind of exclusion. This is seen in a quote by A4.

A4: This is hard because. Because I'm so special. I'm such a special case. You can't design a course just for me, but for everyone else.

Disclosure and the stigmatisation related to assessment accommodations were seen as forms of governance and control. Therefore, assessment accommodations were seen as practices that measure and categorise – or, as a process starting from getting the medical document needed and ending in using accommodations. This kind of process is not asked of all students whose mathematical skills are being assessed. The processes of governance and control were connected to the creation of exclusion. A6 describes the lengthy process of accessing assessment accommodations, which reflects how governance that is only seen in the lives of the students who need accommodations.

A6: Well, first you have to contact the lecturer privately [to apply for assessment accommodations]. [...] I think it's pretty annoying to have to contact the lecturer directly. And then the student services. And they arrange a room for you. And you have to make sure the teacher gets your exam paper after all this. [...] That's why I've almost given up on using them. Too much hassle for one exam.

Hints of alternative categorisation through accessing the discourse of normality could be found in the students' experiences of inclusive course designs. As A4 stated, all students differ greatly, and special needs are only one of the many differences. However, even though assessment accommodations made it possible for the students to show their skills in assessment, such accommodations were not always framed as inclusive. For example, A2 compares assessment accommodations to the help and feedback given by student tutors, a practice held at the mathematics department.

A2: When I've attended the sessions held by student tutors, they've really helped me individually when I've asked for help. So, it's individual, but still the same for everyone. [...] Everyone is an individual with their own needs.

To sum up, disciplinary power was identified when assessment accommodations allowed the students to construct only one category for themselves – the category of the abnormal. The categories of *normal* and *abnormal* were created in the students' experiences. From this viewpoint,

assessment accommodations are seen as creating inclusion/exclusion; they either inclusively allow everyone to access the discourse of normality or they create exclusion by strengthening the categories of normal and abnormal. It is important to notice that these categories of normality were not tested when the students described benefiting from assessment accommodations. Even when the students were able to perform like everyone else by using assessment accommodations, they still categorised themselves as abnormal. This can be seen in how A2 compares their own exam situation to a *normal* one.

Int.: Well, has it helped when you have been given the extra time?

A2: Yes it has. It has helped since when the normal examination time ends, I am usually still struggling with, for example, what the questions are all about. So, it usually takes me longer than it would normally take.

Discussion

This study expands on the literature on students' experiences of assessment accommodations in higher education by observing these practices within the framework of power. University mathematics and its exam-driven assessment culture (Iannone & Simpson, 2011, 2015; Nieminen, 2020) act as a context. Nine students who had the right to use assessment accommodations were interviewed to raise the voice of the students on this topic. Overall, the students' experiences reflected the earlier literature: even though they personally had positive experiences of assessment accommodations, they widely expressed their systemic concerns. The present study utilised three different frameworks for power to conceptualise these systemic issues (passing gatekeepers, having to disclose, stigmatisation) and the assessment accommodations themselves in a different light.

The notion of sovereign power framed assessment accommodations as an unfair assessment game, during which the gatekeepers had all the power to command the rules. Disclosure and stigma were seen as prices one has to pay in order to access assessment accommodations. As reported in this study and in the earlier literature (Getzel, 2008; Marshak et al., 2010; Quinlan et al., 2012), not everyone can pay this kind of price and might choose not to disclose. Earlier, sovereign power has been seen as a simple conceptualisation that merely acts as a basis for deeper analysis (e.g. Patton, 2012). However, here the results revealed that some of the students shared experiences of powerlessness where they acted as recipients responding to power (Tan, 2012). This straightforward view of power might simplify a complex issue, but nevertheless brings forth

student experiences of unilateral power relations, which are currently rarely reported in research (Tan & Kastberg, 2017).

Epistemological power was identified in how the students saw assessment accommodations as a crucial part of assessing mathematics. This conception framed assessment accommodations as a part of *institutional epistemologies*; its nature as a mandatory part of mathematics assessment is taken for granted (Hanafin et al., 2007). From this perspective, having to pass gatekeepers by disclosing one's disability status does not simply reflect unilateral power relations; it is also a part of the institutional epistemologies of university mathematics. Even though the students wished for a more diverse assessment culture, they also understood how institutions can act as administrative engines (Taras, 2016) and also limit the actions of the staff. According to the students, other support systems than assessment accommodations did not fit the current institutional epistemology. This epistemology prevents students with special needs from obtaining the support they actually need. These kinds of conceptions highlight external political and economic factors: even though the students connected exams directly to the mathematical assessment culture, it might be that mass examinations coupled with assessment accommodations are the only reasonable way in higher education to assess courses with hundreds of students. Offering students medical and psychological services is much more expensive than offering assessment accommodations, which means that teachers might not be able to choose other kinds of support mechanisms even if they wanted to. Therefore, the notion of epistemological power highlights the importance of also understanding power relations from broader aspects, seeing policy-makers as agents of power, distant gatekeepers. It should be noted that even though Finnish legislation offers teachers autonomy in assessment methods, the students saw mathematics assessment as mainly being based on testing. Interestingly, the students themselves brought up the theme of fairness, which is also seen in Acker et al. (2009); fairness was considered an essential feature of assessment. To sum up, epistemological power frames assessment accommodations as complex socio-cultural practices, as the students are not seen as recipients of power but rather as active agents sharing and constructing the epistemological beliefs related to assessment (cf. Nieminen, 2020).

Finally, disciplinary power was identified in the students' conception of assessment accommodations as "constructing inclusion/exclusion". Through this conception, disclosure and stigmatisation were seen as devices for control, measurement and categorisation (Foucault, 1977, 1990). Further, according to the students' experiences, assessment accommodations acted as socio-cultural practices that actualise asymmetrical

power relations (see Gore, 1995) by dividing students into two categories in their discourses: the normal and those using assessment accommodations. The way in which assessment accommodations were described as "help" and "medicine" for the abnormal was represented as factual knowledge. This highlights that mathematical identities are produced through institutional power and normalisation (Lambert, 2017). Taking a Foucauldian view of the results of this study, students are not powerless recipients of power but assessment accommodations might only offer them one category: that of the abnormal. From this perspective, stigmatisation is not only understood as negative attitudes towards students using assessment accommodations but also as a discursive division between normal and abnormal students; the ones who are included and the ones who are excluded from *normal* assessment practices.

This study suggests that it is possible to use the framework of power in the context of assessment accommodations and that it provides a novel way to conceptualise these practices and understand their socio-cultural nature. Understanding students' experiences through the framework of power did not only reveal discrimination, as reported in previous studies; it also revealed a need to further examine assessment as a social practice in university mathematics. To conclude, this study highlights the importance of understanding power structures in the process of governing assessment accommodations. The results argue that framing assessment accommodations merely as "reading glasses" (Cohen et al., 2005) or as a "menu of services" (Kurth & Mellard, 2006) might hide their oppressive nature and possibly even construct inequity and injustice. As university mathematics was seen as an exam-driven assessment environment in this study (as it has been seen before; Iannone & Simpson, 2011, 2015; Nieminen, 2020), it is especially important to understand power relations in this kind of context. Future studies could further examine the power related to assessment accommodations in different kinds of educational contexts such as school mathematics.

This study has several implications for practice. First, as the students' experiences showed hints of discrimination, it must be ensured that assessment accommodations are not used in humiliating ways. The results ask us to critically examine the assessment culture of university mathematics. The community of mathematicians should reflect the exam-driven assessment culture, since diverse and inclusive assessment practices cannot benefit everyone. To quote Lovett and Lewandowski (2015, p. 210): "Why not put energy into designing better tests, rather than retrofitting poorly designed test formats with accommodations that are controversial and potentially discriminatory?" Finally, the voice of the students using assessment accommodations should not be heard only

in research; they should also be heard in practice. Students should participate in designing these accommodations to avoid the systemic issues concerning assessment accommodations. Students' participation could perhaps lead to inclusive assessment practices that do not require anyone to disclose their condition in the first place.

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