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## Introduction

The Needs Analysis report is considered as the principal deliverable towards the development of accessibility centres in the Universities of Indonesia. It will be used as the starting point for the training plan definition, so that the capacities of Higher Educational Institutes (HEIs) will be built in an effective and relevant way.

This detailed report describes the needs of students with disability, academics, academic managers and employers. It aims to create a full picture of the current situation in Indonesian HEIs and identify the potential actions that will take place in order to raise awareness about the accessibility of students with disabilities, regarding not only the university premises, but also the education provision.

Moreover, the aim of this report is to present the findings of the survey carried out at the Indonesian HEIs, which participating in the project and also beyond, at national level in Indonesia. The survey investigated the current situation and detected the needs in the Higher Education Institutions and the market. In addition, there was an investigation of the needs of the students with disabilities in the Indonesians HEIs, as well as the potential of using assistive technology in the learning process.

The methodology that was used to implement the needs analysis was mixed and was based in the principles of triangulation. In particular, the data collection was achieved via qualitative and quantitative procedures, for real analysis of the students with disabilities conditions. For this reason, the research methodology employed is founded on the principles of action research, making use of the mixed-method evaluation technique. In an attempt to render an analysis of the manner multiple views and experiences of the Indonesian HEIs can be used feasible,, by delving deeper in educational-methodological, cognitive, social and technological-organizational issues.

The main issues covered by the surveys and the interviews include among others:

- Accessible learning strategies for students with disabilities.
- Improving the services for students with disabilities and education professionals in Universities, such as support units and accessible infrastructure.
- Use of assistive technologies to enhance the learning process for students with disabilities.
- Training needs of education professionals in relation to their teaching students with disabilities.
- Identification of challenges and barriers faced by students with disabilities and education professionals.

The major results of the analysis have shown an expectation of all stakeholders to enhance special facilities for students with disability. This can be achieved by the development of a strategic plan that will ensure adequate funding sources to promote

and support the accessibility units. Finally, training of academics and university staff, is identified as the key element that will ensure the accessibility conditions to students with disabilities.

## 1. Participants

The main challenge of this report to overcome the lack of information and specific knowledge related to students with disabilities in Indonesian HEIs, by supplying information about the level of university accessibility conditions and practices, level of disability awareness and subsequent training needs. All the data collected in this survey is considered as the stepping stone for the Indonesian HEIs to “build” an effective capacity for students with disability and improving the current conditions.

The survey was implemented from September until October 2017 and more than 140 (one hundred and forty) participants from 6 (six) Indonesian HEIs were surveyed from 5 (five) target groups:

### **1. First year disabled university students**

This target group completed a questionnaire, in which was aimed to evaluate the expectations of students when they entered the first year in University.

### **2. Disabled university students of upper semester**

This target group completed a questionnaire, in which was aimed to measure the attitudes and beliefs shaped by the attendance in University. Moreover this target group complete questionnaires, so as we can explore more details about their perceptions and expectations of their University.

### **3. Academics**

This target group completed a questionnaire, in which was aimed to evaluate their perceptions and expectations of their University, that they work as an educators and mediators of knowledge.

### **4. University Managers**

This target group completed a questionnaire, in which was aimed to measure the beliefs shaped by their work as a leader of the University. Moreover this target group complete questionnaires, so as we can explore more details about their perceptions about the opportunities that they want to offer to disabled students of their University.

### **5. Employers**

This target group completed a questionnaire, in which was aimed to evaluate their perceptions and expectations of their University, that they work.

The following Table 1 shows the overall view of the participants in this project.

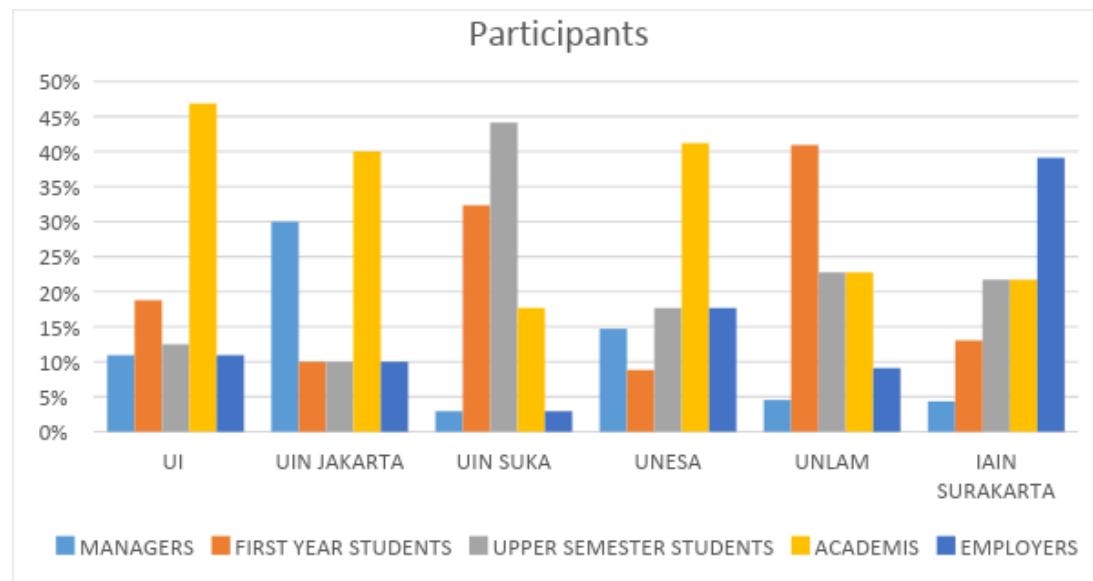


Table 1: Participants per HEI

## 2. Needs analysis in UIN JAKARTA

In the needs analysis conducted in the University of Jakarta, participated:

- 2 (two) first year disabled university students, consisting of 2 (two) males,
- 2 (two) disabled university Disabled university students of upper semester, consisting of 1 (one) female and 1 (one) male,
- 8 (eight) academics, consisting of 5 (five) females and 3 (three) males,
- 6 (six) University Managers, consisting of 5 (five) males and 1 (one) female and
- 2 (two) employers, consisting of 2 (two) males.

### 2.1. Accessible learning strategies for students with disabilities

In terms of the availability of various presentation methods and tools, 50% of the First year disabled university students considers that not all teaching instructions are easy to understand and follow, while another 50% of the participants totally disagrees with the statement that teaching instructions are easy and follow. Lectures do not have applied assistive technology to support their method in order to help the disabled student.

Both first year disabled university students confirmed that they disagree to the statement that lecturers have used various presentation methods and tools to make instruction and learning materials available and accessible to all students. In this case, the two participants do not have physical impairment which enable them to have access to the available infrastructure on campus. One of the first year disabled university students interview, stated that he has his own way to interact with his lecturers, mentioning that *“I wrote a memo when I had some questions”*, while 2 of the 3 first year disabled university students stated pretty satisfied, since the lecturers use projectors which are very helpful in promoting the learning process, even though there is still space for improvement of the quality. Considering exams and assignments, both participants stated that there was no adjustment on the admission test when they enrolled to the university, either any options were provided on how students with special need should complete the course assignments. They feel that the lectures felt quite uncertain about this matter.

In regards with teaching instruction, each of the Disabled university students of upper semester has respectively claimed to agree and strongly agree that various presentation methods and tools (written and verbal) are used by academics in order to make pedagogical material available and accessible to all students with disabilities. Both agreed that several options are provided by lecturers on how to complete course workload, like exams with multiple-choice or developmental questions, orally or written.

## 2.2. Provision of services for students with disabilities

According to the Disabled university students of upper semester, the accessibility level of the University structures (classrooms, lectures, labs, services and infrastructure) is unsatisfactory, since there few activity open spaces. Students also complained even about the limited number of chairs in the classrooms. Accessible facilities should be made available for all students, because as they believe it is their rights. The quality of inclusive education and the provision of accessible facilities for students with special needs should be improved.

In regard to the accessibility to classrooms, each respondent has respectively claimed to agreeing and strongly agreeing that the classrooms are easily accessible to students with disabilities and the students with disabilities have already got access to the facilities at Syarif Hidayatullah State Islamic University, like any other students.

In opposition to the **disabled university students of upper semester**, 1 (one) out of 2 (two). **First year disabled university students** stated that there was no accessibility access in the last year of senior high school and the other respondent did not answer the question. With regards to the accessibility of the university's facilities, 1 (one) student agrees that students with disabilities have access to the institution's facilities, same as with other students. However, the other student neither agrees nor disagrees on this statement.

In terms of the guarantees to access the services provided by the university, 5 (five) out of 8 (eight) **academics** have strongly agreed that students with disabilities are guaranteed access to the services like other students. Only 2 (two) respondents think they are unsure and the other respondent has questioned the existence of the guarantee.

Approximately about 6 (six) to 7 (seven) academics, have strongly agreed that Syarif Hidayatullah State Islamic University should provide services and facilities structure for students with disabilities to pursue their study like other students. Here, only 1 (one) respondent really thinks that the university doesn't need to provide such structure.

The **University Manager** interviewed stated that the University did not own a center that specifically provided services for students with disabilities. In 2009, along with the opening of the Social Work Study Program, the idea to establish such center began to emerge. Sadly, the financial support was low back then. The center initially came to reality in 2017 with the support from INDOEDUC4ALL cooperation. With the support of the two faculties (Faculty of Dakwah and Communication Sciences and Faculty of Tarbiyah and Teachers' Training), is committed to developing this center as a phase to implement the inclusive education paradigm adopted by the University.

### 2.3. Use of Assistive Technologies to enhance the learning process for students with disabilities

According to the opinion of **disabled university students of upper semester**, the inclusion of students with disabilities at the university depends largely on academics' training on disability and assistive technologies. However as far as the utilization of Assistive Technology at Syarif Hidayatullah State Islamic University is concerned, only one of the two respondents agrees that the University has used them in the learning process and that the academics have considered to apply AT when planning and anticipating for students' individual learning needs. Both of the students agreed that the University does not have adequate assistive technologies, except some of the usual ones, such as markers, Text-to-speech, Slide Show or Text Reader.

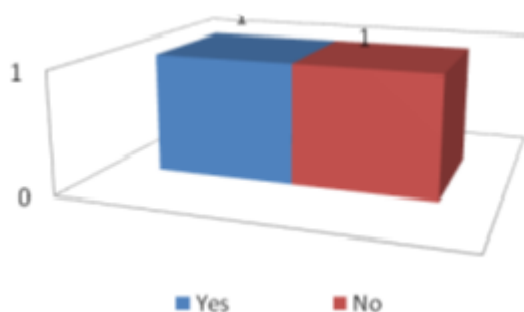


Table 2: Academics' Consideration to apply AT

Depending on disability, one upper semester student has claimed that the assistive technology devices and tools which are really helpful in his/her study or training, include touch screen and screen magnifier. Meanwhile, the other respondent is referred to reading aids and learning programs for disabled students, as the most helpful devices and tools.

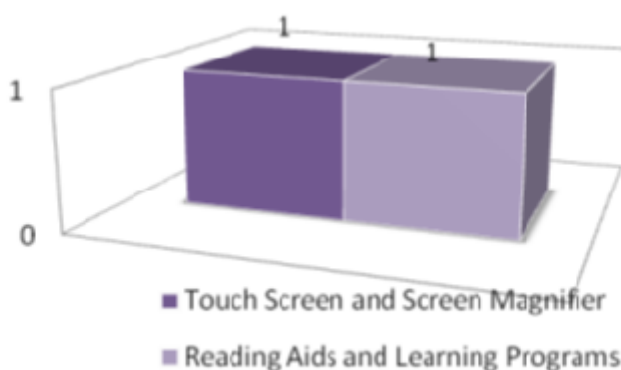


Table 3: Helpful AT devices and tools

According to the **first year disabled university students**, assistive technology in their University is at low availability and in the question of any existing tools or application, they stated that they were not aware of their existence or use. Lectures do not have applied assistive technology to support their method in order to help the disabled student, which makes the teaching instruction difficult to follow. Concerning whether the inclusion of students with disability depends largely on assistive technologies, 50% of the participants strongly agree that the inclusion of students with disabilities are largely influenced by assistive technologies. For instance, the use of reading tools, would considerably enhance the learning process of students with disability. However students believe that academics do not consider assistive technology when planning and anticipating for students' individual learning needs.

Half of the **academics** surveyed have admitted to having limited knowledge regarding assertive technology which enables them to communicate with students with disabilities. Only one respondent is uncertain if he/she is familiar with assertive technology.

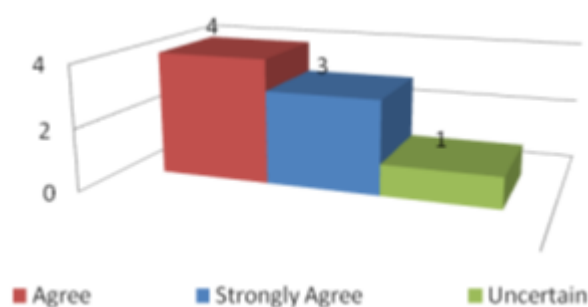


Table 4: Knowledge of AT

This is well justified considering that 3 (three) out of 8 (eight) academics have admitted to having no knowledge regarding, and 2 (two) respondents have mentioned that they are not familiar with using assertive technology. Only 3 (three) more respondents have claimed to having enough knowledge and skills in utilizing Assistive Technology.

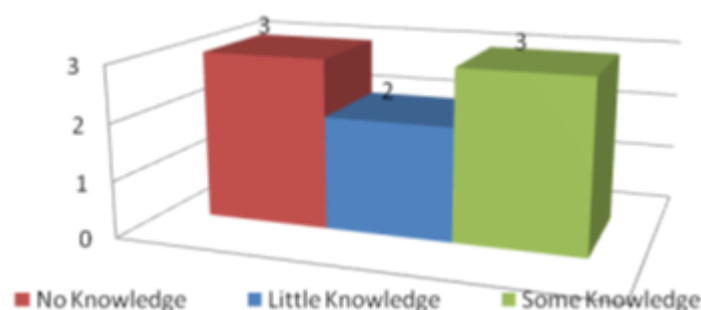


Table 5: Knowledge and skills in using AT

Half of the academics have claimed to have never attended courses on Assistive Technology, while all 8 academics have claimed to have great interest in joining training on Assistive Technology to improve their teaching performance and deep understanding in dealing with ways to teach students with disabilities.

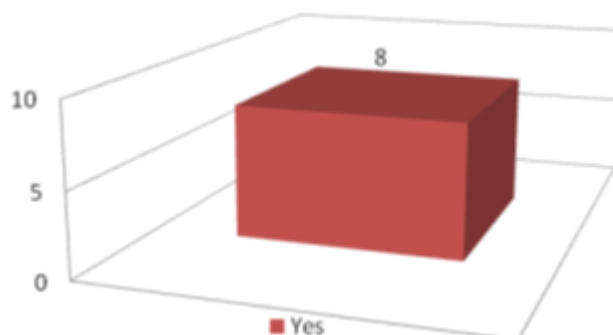


Table 6: Lecturers' interest in joining training on AT

## 2.4. Training needs of academics

Half of the **first year and Disabled university students of upper semester** stated that the inclusion of students with disabilities depend on a great scale on the training of academics. Concerning the training on teaching students with disabilities, 4 (four) **academics** have attended training and the other 4 (four) have never joined any. Concerning the availability of training on teaching students with disabilities, 2 (two) and 3 (three) respondents have respectively mentioned —agree and —strongly agree that disability-related training is very limited. Only 2 (two) respondents think that the training they have received is adequate.

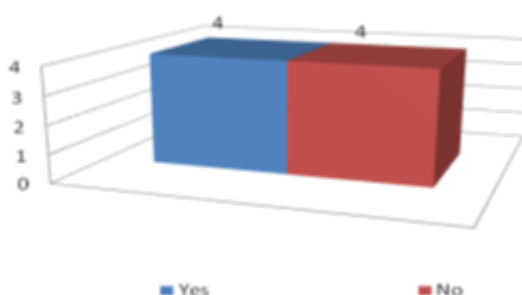


Table 7: Training on teaching students with disabilities

Regarding the training provider, 4 (four) respondents did not give answer and 1 (one) respondent answered universities and others as the organizers. In the meantime, 1 (one) person stated that he/she was self-trained and 2 (two) respondents mentioned others as the providers. See the following table for details.

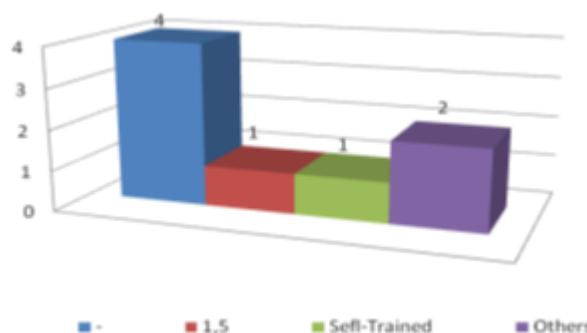


Table 8: Training providers

As regard to the types of training, 3 (three) respondents answered that the training they have participated in is classroom training and 1 (one) mentioned others as his/her answer. However, the remaining respondents did not give any answer.

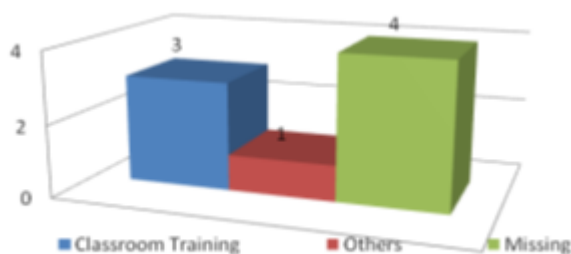


Table 9: Types of training

In terms of the implementation of training, 2 (two) and 5 (five) respondents have respectively admitted to agreeing and strongly agreeing that the implementation of training at Syarif Hidayatullah State Islamic University concerning disability can help academics become more qualified in dealing with students with disabilities. Here, only one respondent is uncertain if the implantation of training is helpful. All respondents have claimed to have great interest in joining training on Assistive Technology to improve their teaching performance and deep understanding in dealing with ways to teach students with disabilities.

Regarding the training opportunities, 3 (three) out of the 6 (six) **University Managers** are uncertain if Syarif Hidayatullah State Islamic University has offered sufficient opportunities. However, 3 (three) of them strongly agree that it has given some. This means more opportunities are needed for the managers in joining training on accessibility for students with disabilities, but until now there was no training proposal for academic staffs on accessibility issues.

On the hand, **employers**, seem to have joined some training focusing on different practices such as capacity building, the use of Screen Reader and Assessment.

## 2.5. Identification of challenges and barriers faced by students with disabilities and academics

Almost all **academics** have agreed that students with disabilities should overcome more obstacles concerning their participation in learning which means they need more support and help to deal with the barriers.

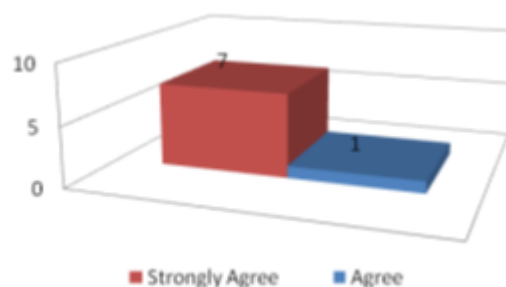


Table 10: Barriers for students with disabilities

In particular, 5 (five) out of 8 (eight) academics have strongly admitted that the students with disabilities have experienced physical and social barriers at Syarif Hidayatullah State Islamic University. In dealing with more physical access barriers, 2 (two) and 3 (three) respondents have respectively claimed to agreeing and strongly agreeing that students with disabilities should overcome more obstacles regarding their physical access. In the meantime, 3 (three) respondents are uncertain if the students struggle to deal with the physical barriers. Almost all respondents have agreed that students with disabilities should overcome more obstacles concerning their participation in learning which means they need more support and help to deal with the barriers.

Concerning the difficulties faced by lecturers in adjusting the Contents and Materials to the Needs of Students with Disabilities in the Classroom, there are different options. 3 (three) out of 8 (eight) respondents have admitted to experiencing difficulties in adjusting the contents and materials to their needs, which is proved since one of the upper semester student interviewed stated that faces difficulties in understanding the materials taught to them. In the meantime, 3 (three) academics are unsure if they find obstacles in dealing with the adjustment of the contents and materials and 2 (two) have claimed to not facing any difficulties. Furthermore, 3 (three) out of 8 (eight) academics have claimed to face difficulties in teaching classrooms that include students with disabilities. However, 2 (two) and 3 (three) respondents have respectively agreed and have strongly agreed that they don't experience any difficulties in teaching classrooms where students with disabilities are included.

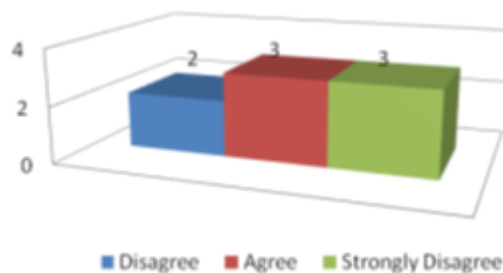


Table 11: Difficulties in teaching in classroom with disabilities

According to **disabled university students of upper semester**, the students with disabilities at the University have to cope with more barriers regarding their participation in learning. On the hand, the **first year disabled university students**, disagree that students with disabilities have to cope with more barriers regarding their participation in learning. The biggest obstacle according to 1 (one) participant is due to difficulties caused by disability while for the other participant is the heavy load of lectures and assignment.

### 3. Needs analysis in UI

In the needs analysis conducted in the University of Indonesia, participated:

- 12 (twelve) first year disabled university students, consisting of 5 (five) males and 7 (seven) females,
- 8 (eight) disabled university Disabled university students of upper semester, consisting of 1 (one) female and 7 (seven) males,
- 30 (thirty) academics, consisting of 23 (twenty three) females and 7 (seven) males,
- 7 (seven) University Managers, consisting of 4 (four) females and 3 (three) males and
- 7 (seven) employers, consisting of 3 (three) males and 4 (four) females.

#### 3.1. Accessible learning strategies for students with disabilities

According to the **first year disabled university students**, various presentation methods and tools being used by academics so that the material is available and accessible to all students. Only 17% of the new student need special adjustment in the exams for university in the last year of high school.

In general over all needs of the **disabled University students of upper semester** were lower related to the new students. It was stated that the university must able to address the needs of students with disabilities by implementing specific adjustment in the learning process.

#### 3.2. Provision of services for students with disabilities

In general all students agree with all statements to facilitate their needs. The highest priority needs is that the university must provide service and support structures for students with disabilities so the disable student can pursue their studies like other students. 2 (two) **first year disabled university students** mentioned about the adjustment needed was moving the class to the more accessible place.

Although UI has not yet support center for students with disability but all of the student mention that the university make use of student support center. This might be at faculty level. However the effectiveness only mentioned by 50% of the students and other half students stated that it could be more effective. This mean that if the center will be coordinate at university level, the effectiveness could be improved.

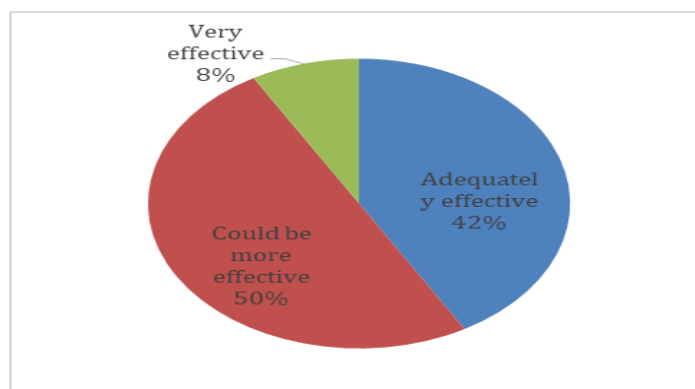


Table 12: Effectiveness of students support center

According to **disabled university students of upper semester**, the university must provide services and support structure for students with disabilities to pursue their training studies like other students. Half of the students with disability mentioned that the university make use of student support center, and others said no. However the effectiveness only mentioned by 29% of the students and the majority of the students stated that it could be more effective.

Almost all (70%) of the **academic** said that they did not aware of the support center for disable since UI has not established yet. However, 30 (thirty) academic mention about their center and this might be at faculty level. Most of them strongly agree that the university provide service for disable students and also regular support to the academic staff. Support from university can be increase since the students were perceived as still struggling with their disability.

When asked about their satisfaction with university accessibly, the **university managers** said neither agree or disagree (3), and most of them did not agree that the university has facilities that are safe and secure for disable students and they did not also feel that university facilities are accessible in every type of disability and the university facilities did not meet with the needs for students with disabilities.

The university manager has a good opinion in making strategic plan to improve access to students with disability, however the managers stated that sufficient training opportunity are not provided to improve academics work related to accessibility to disable students. The good things was, the managers believe that the university has adequate funding sources to promote and support an accessibility to students with disability.

When asked about what the university managers have develop strategic plan for accessibility for students with disability, only one respondents said strongly agree, the rest only stated neither agree or disagree. The managers mentioned that the wheel chair lane for the accessibility of the students with disability.

Regarding the perception of the **employers**, most of them (71%) are having no incentive in accepting students with disability, even though more than a half of the

respondents stated that the company has accessible infra-structure. At this point only two respondents (29%) mentioned that they are having incentive for accepting students with disability. Only one respondents mentioned about the adjustment for employee with disability, other has no experienced in adjusting the policy due to limited experience with disable employee. All of the employers stated that there was no special program for internship students with disability.

### 3.3. Use of assistive technologies to enhance the learning process for students with disabilities

Out of 12 (twelve) responses of the **first year disabled university students**, 42% stated that the university make use of AT, compared to 58% that did not agree. They believe that 44% of the academics consider assistive technology when planning and anticipating for students' individual learning needs, but more than half did not consider it. Considering the availability of AT, more than half of the students reported that little AT available at the university, and 10% mentioned that it was not available.

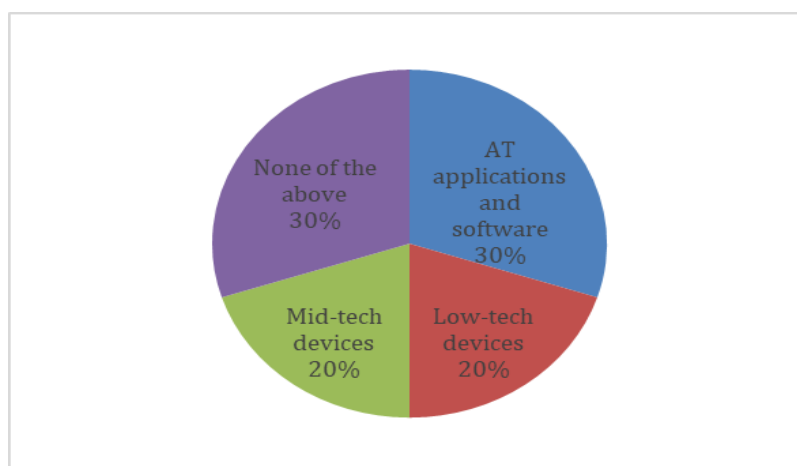


Table 13: Types of use of AT in HEI (first year disabled university students)

Almost one third of the first year disabled university students said that UI has no AT application and software, however 30% stated that AT application and software are available in the university. None of the students stated that high tech device are available in UI. Since the disable students were having different needs based on their impairment, the AT applications needed also vary from disability to disability.

According to disabled university students of upper semester, 63% stated that the university make use of AT, compared to 37% that did not agree and half of them agreed that the academics consider assistive technology when planning and anticipating for students' individual learning needs. As far as the availability of assistive technology 5 out of 8 respondents (62%) reported that little AT is available at the university, referring mainly to low and middle technology, while two students (25%) said that AT was not existed and only one (13%) stated adequate.

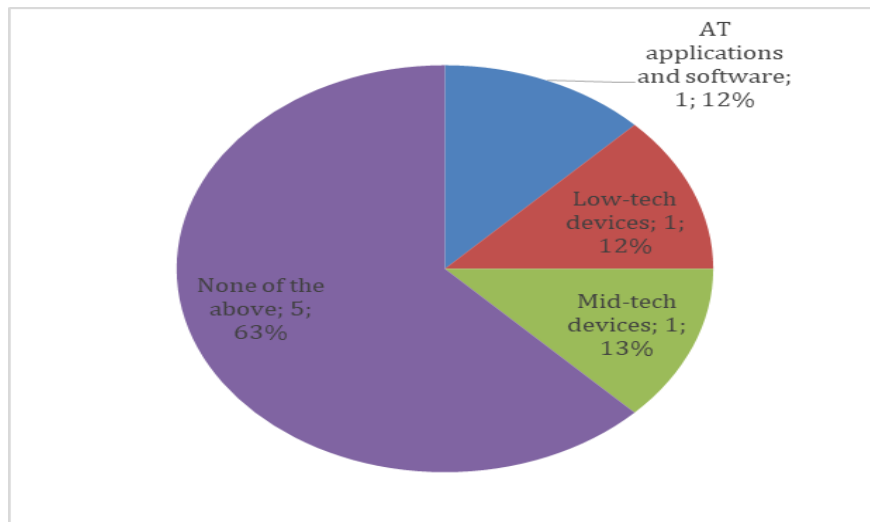


Table 14: Types of use of AT in HEI (disabled university students of upper semester)

The most usual tools needed by students with disability are seen in the following graph.

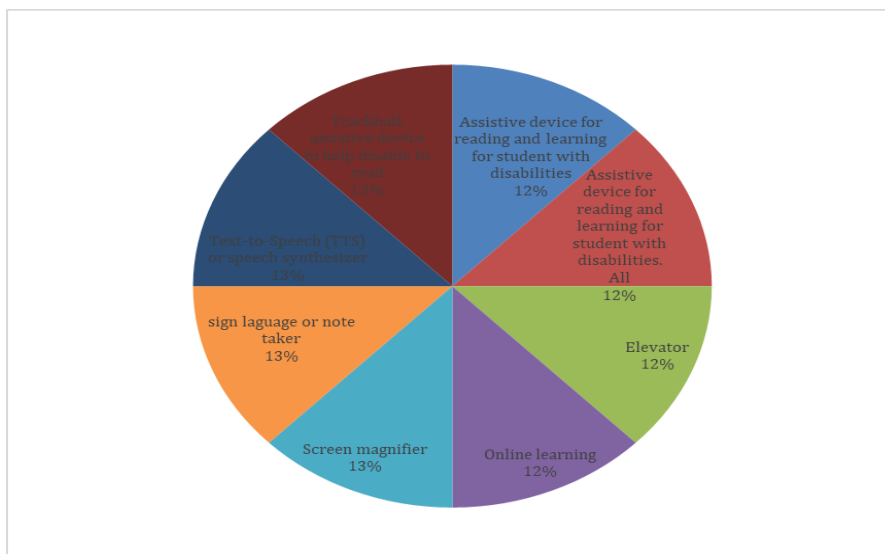


Table 15: Most usual tools for students with disabilities

Only 13% of **academic staff** in UI already have good and some knowledge, the rest stated that they have little knowledge (40%) or even no knowledge (47%).

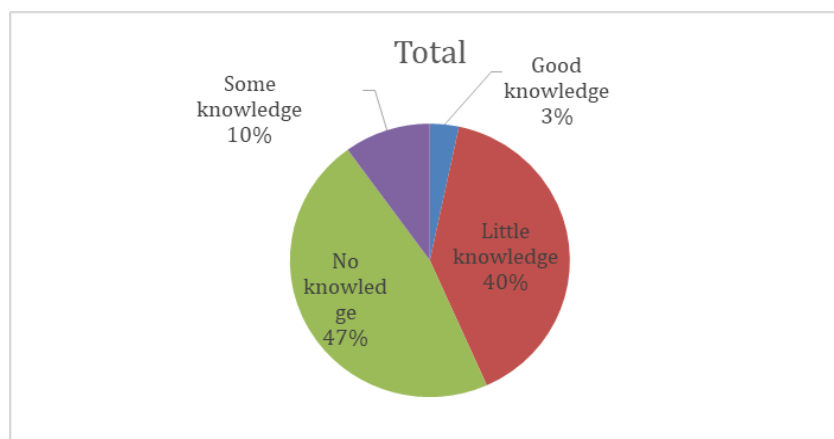


Table 16: Knowledge about tools for students with disabilities

Their limited knowledge about AT is because they never have course on AT, only 3% mentioned that they have ever attended course on AT. However, all teaching staff that never attended IT course are interest to take the course. Hands on instruction in group setting is the most preferred method (45%), besides workshop or conference (28%) and formalized courses (24%).

### 3.4. Training needs of academics

Almost all of the **academics** never received training on teaching students with disability, only 4 academic staff (13%) ever have training. From the 13% of the academic staff mention about the training, one academic (25%) stated the training was in faculty level, but the other three said that the training was in university level. In regards, with the type of training, all of them preferred a classroom training, compare to other methods.

Regarding the **employers**, all of the respondents stated that they have never trained to cooperate with disable people.

### 3.5. Identification of challenges and barriers faced by students with disabilities and academics

From 12 responses of the **first year disabled university students**, 30% mentioned having no difficulty or can adjust with the condition, 30% mentioned about having difficulty in access to class, mosque etc., and 15% not allowed participating in sports, and other need assistive devise. Regarding the obstacles in the learning process, half of the difficulty was related to the assistive devises needed, 34% because of the course heavy workload and level of difficulty, and 8% because of the students' time management and the skill of the teaching staff.

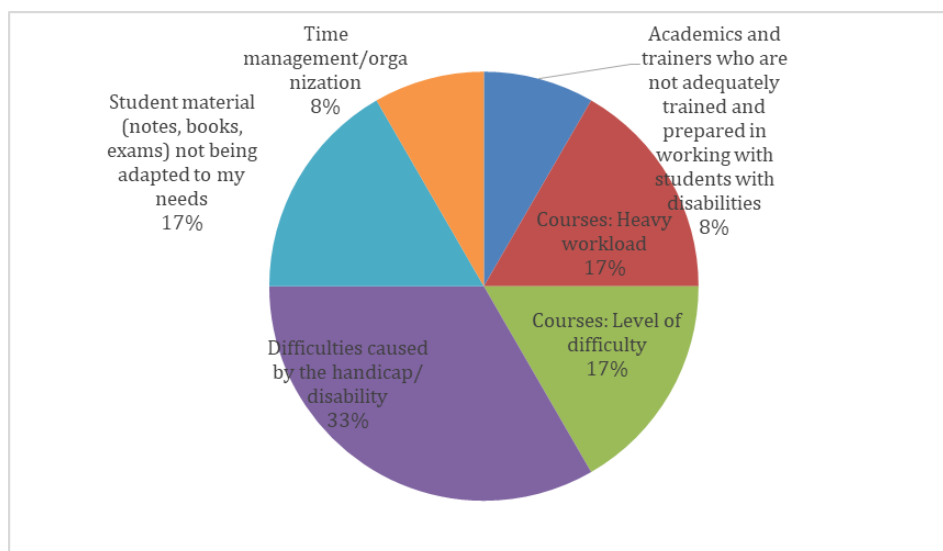


Table 17: Barriers for students with disabilities (first year disabled university students)

For the **students with disability in third or fifth year**, the biggest obstacle was their own student's time management, followed by course heavy workload and level of difficulty. Obstacle with the academic staff that was not trained in having students with disability and because of their disability were also faced by them.

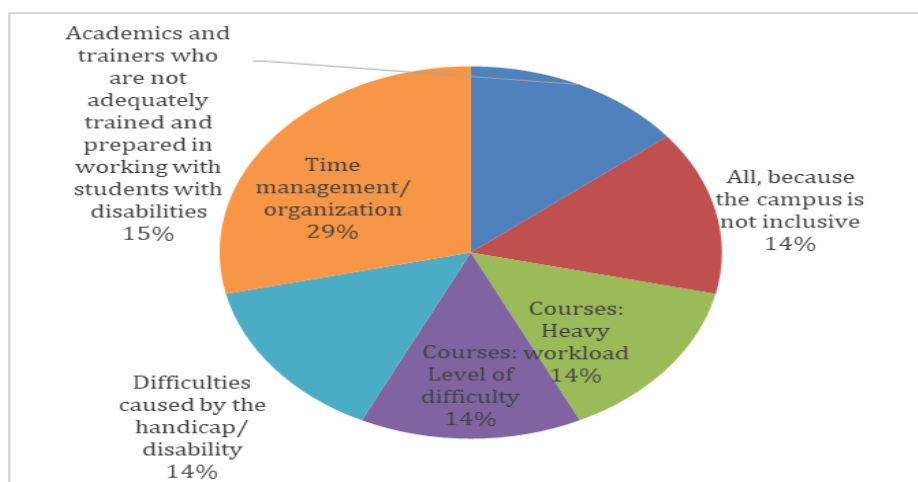


Table 18: Barriers for students with disabilities (disabled university students of upper semester)

The **academic** staff stated having no difficulty in their class.

## 4. Needs analysis in UAIN SURAKARTA

In the needs analysis conducted in the University of Surakarta, participated:

- 3 (three) first year disabled students, consisting of 2 (two) males and 1 (one) female,
- 5 (five) disabled university Disabled university students of upper semester, consisting of 1 (one) female and 4 (four) males,
- 5 (five) academics, consisting of 1 (one) female and 4 (four) males,
- 1 (one) University Manager, consisting of 1 (one) male and
- 9 (nine) employers, consisting of 6 (six) males and 3 (three) females.

### 4.1. Accessible learning strategies for students with disabilities

All of the **first year disabled university students**, had special adjustments in exams for the university in the last year of high school, in the form of guided service in order to read the questions on the Test. Also, all of the 3 students stated that there was specific admission process for their entrance in the university. Regarding the presentation methods and tools (written and verbal) being used by academics, in order to make pedagogical material available and accessible to all students, the majority of the students (67%) agreed that it was valid in the University and several option were provided on how to complete course workload. There are various presentation methods and tools (written and verbal) being used by academics, in order to make pedagogical material available and accessible to all students.

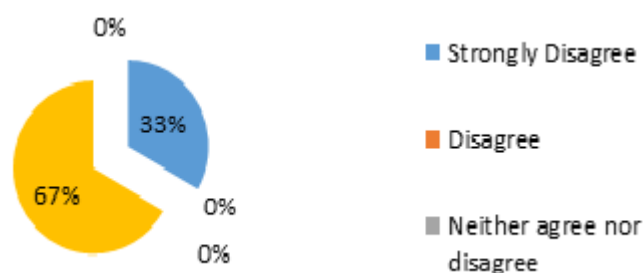


Table 19: Presentation methods and tools

For instance, they used multiple-choice or developmental questions. Furthermore, 3 (three) out of 2 (two) first year disabled university students strongly agreed that the teaching instructions are easy to understand and follow, regardless of student's level of experience, knowledge, or skills.

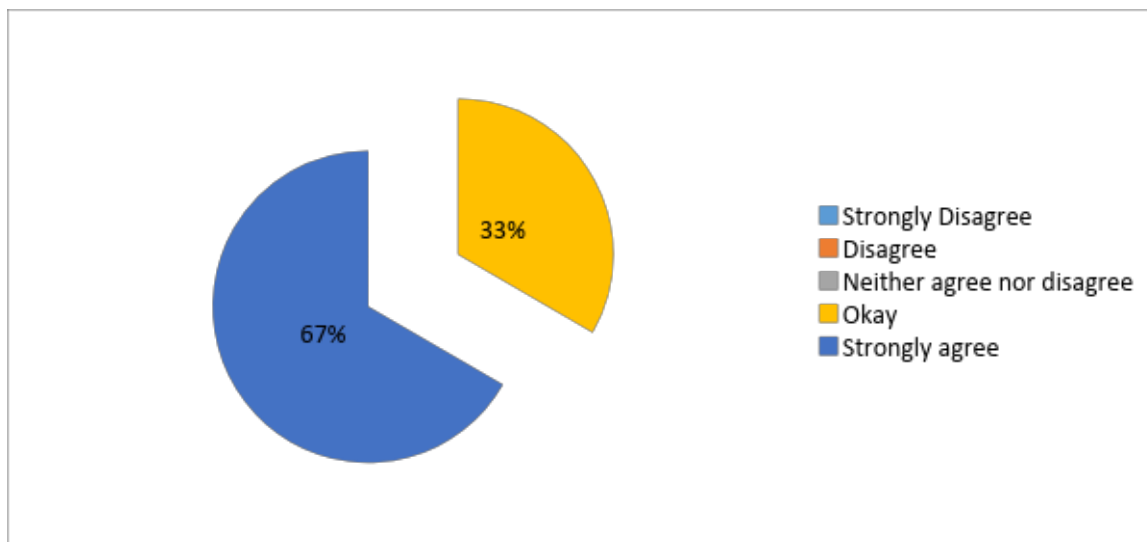


Table 20: Understanding of teaching instructions

On the other hand, 2 (two) out of 3 (three) **disabled university students of upper semester** neither agreed nor disagreed about the accessibility of the presentation methods that the academics used, as well as about the options provided on how to complete course workload. However, the majority of them (80%) considered the teaching instruction easy to understand and follow, regardless of their level of experience, knowledge or skills. According to the 40% of the **academics** the principles of universal design is present in their course, while all of them stated that the inclusion of students with disabilities at the university depend largely on them. All of them propose mentoring as the only way to help them keep pace with the other students.

## 4.2. Provision of services for students with disabilities

According to the majority of the **first year disabled university students**, the university provided student support through the adaptation services, while all of them agreed that these services could be more effective.

For instance, in regards with the classroom space, they strongly disagreed (67%) that it was organized to serve the needs of students with disabilities. The same percentage agreed on the statement that the classrooms were easily accessible to students with disabilities. As a result, there is a discrepancy between these two statements. However, all of them agreed that the environment in their university is supportive and facilitates the inclusion and participation of all students. It is important, as they stated, that the University provides more services and support structures for students with disabilities to pursue their studies normally, like other students.

On the other hand, **disabled university students of upper semester** disagree in a percentage of 60% that students with disability have the same access as other

students in the university services. For instance, 3 (three) out of 5 (five) stated that classroom space is not organized according to the size, posture and the mobility of students with disability and as a result they are not accessible enough. To this direction the great majority of them (80%) strongly agree that the university must provide services and support structures for students with disabilities to pursue their studies normally like other students, as currently they feel uncertain about the ability of the university to address the needs of students with disabilities through the implementation of specific adjustments.

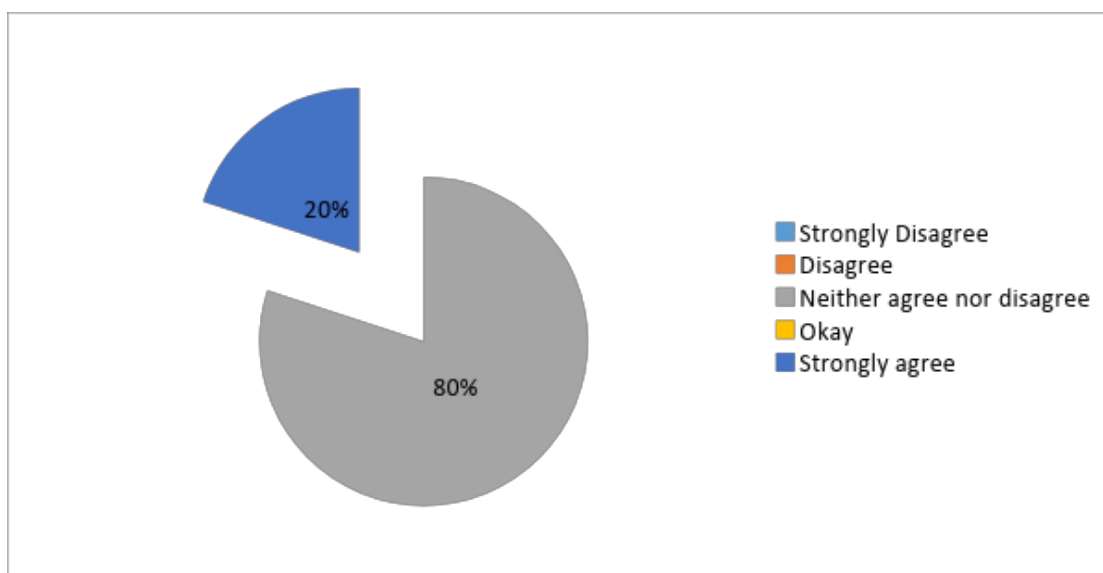


Table 21: Thoughts about implementing of specific adjustments

More specifically, 4 (four) out of 5 (five) disabled university students of upper semester, believe that the university does not make use of the existing support services.

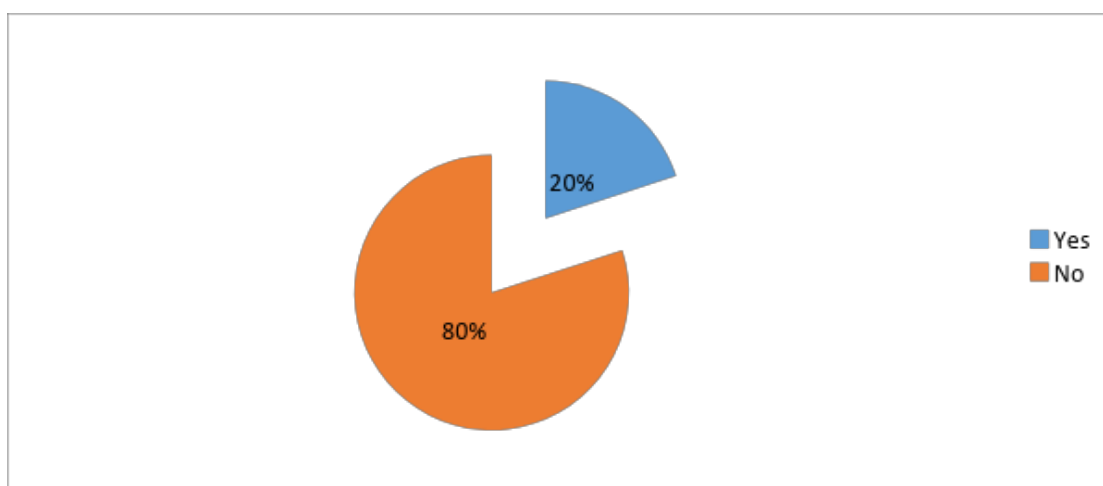


Table 22: Use of the existing support services

The **university manager** that participated in the survey, stated that he was not satisfied at all with the university facilities regarding accessibility, because they were not safe and secure and he strongly agreed that improving access to students with disability was priority of the strategic plans of the university. Of course there is a strategic plan for the accessibility of students, but it is uncertain whether the funding sources are adequate for the implementation of this plan, which is related to the development of building construction, for example an escalator and / or elevator for wheelchair users. Regarding the blind students is given a special path and for the Deaf students there is a provision for an interpreter at the time of learning in the classroom by creating disability friendly learning.

All the **academics** surveyed, stated that the university must provide services and support structures for these students to pursue their studies like other students, as well as create specific groups for students with disabilities. The majority of them (80%) believes that the university is prepared for their education inclusion.

According to 9 (nine) **employers** surveyed, their company has not developed any policy adjustments for employees with disability, while the majority of them (67%) agreed that there is not even accessible infrastructure. This is well justifying the fact that there is no special program for internship in the company for students with disability, as well as not adequate sources to support them.

### 4.3. Use of assistive technologies to enhance the learning process for students with disabilities

**First year disabled university students** (67%), mentioned the importance of assistive technology in the inclusion of students. However, all of them agreed that the University did not make any use of Assistive Technology, except from some low-tech devices, and 67% stated that the academics did not consider assistive technology when planning and anticipating for students' individual learning needs.

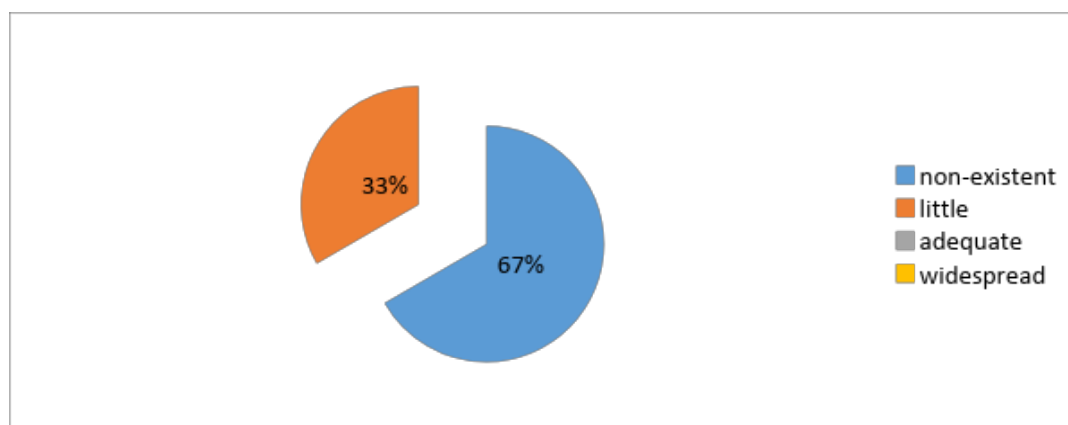


Table 23: Availability of AT

Much the same with **disabled university students of upper semester** that they believe that use of assistive technology does not exist at all in the university and the academics do not use any tools or applications during the learning process. Moreover, in the list of tools given in the questionnaire, all of the students agreed that none of them was available in their university.

Below the graph demonstrates the need for the availability of assistive technology, as students have considered a great majority of tools as helpful for their studies.

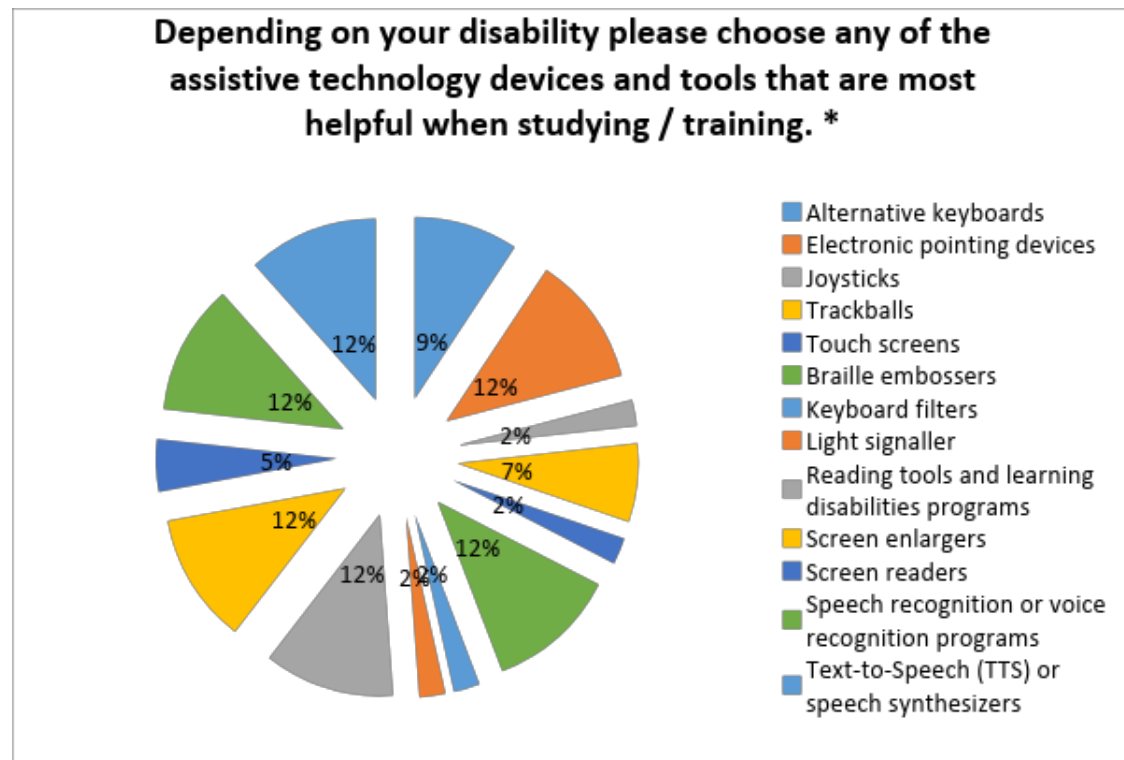


Table 24: Type of assistive technology devices

According to **academics** assistive technology is fundamental to the delivery of their content and the implementation of the activities, although 80% of them stated that they had some but not extensive knowledge in using assistive technology, since they have never attended a course on them. As a result, all of them would be interested to receive training about assistive technology, via hands-on instruction in group setting or by attending workshops or conference sessions.

#### 4.4. Training needs of academics

**First year** and **Disabled university students of upper semester** (67%), mentioned the importance of training of academics in the inclusion of students. The **university**

**manager** agreed that sufficient training opportunities are provided to improve academics work related to accessibility to students with disability. In particular, academic staff training proposal related to accessibility issues already exists and is ready to be implemented by Center for Student with Disability (PSLD).

The **academics** stated that they have never received any training on teaching students with disabilities, even though they have to teach disabled students. All of them agreed that they are not aware of the meaning of inclusive education and its educational implications and this is the reason why they do not consider the educational needs of these students. However, only 2 (two) out of 5 (five) strongly agreed that the training will help them to become better qualified with students with disabilities.

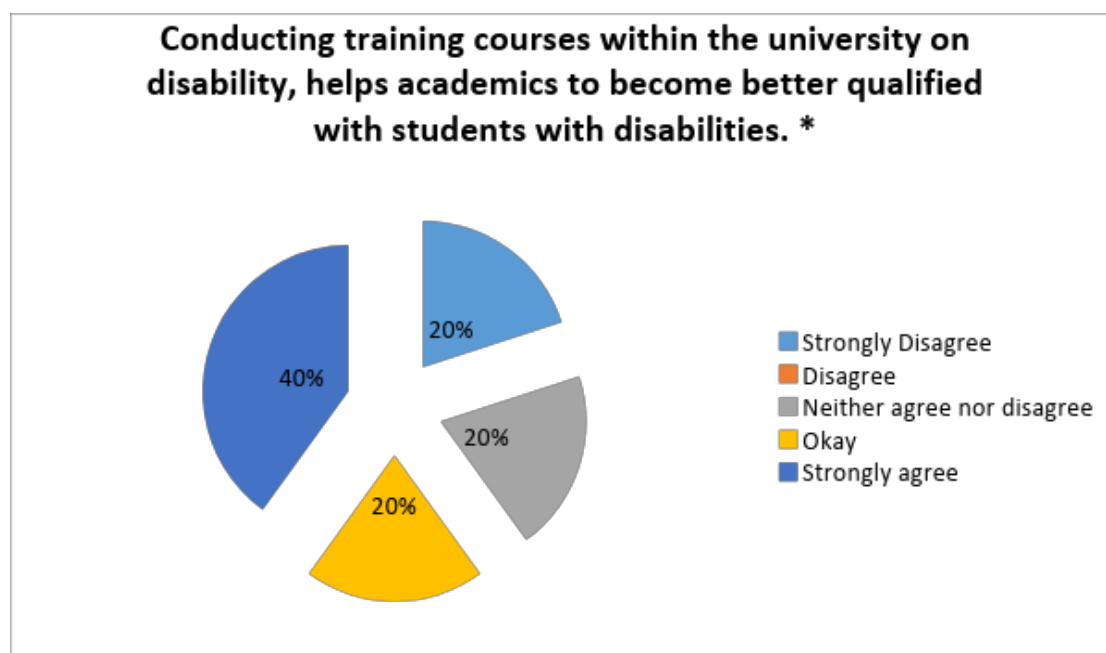


Table 25: Helpfulness of training courses to academics

#### 4.5. Identification of challenges and barriers faced by students with disabilities and academics

**First year disabled university students** (67%), agreed that students with disabilities deal with more barriers regarding their participation in learning. The ones they identified was firstly the student material that is not adapted to their needs, the heavy workload of the courses and the difficulties caused by the disability. Among these, they mentioned that academics and trainers are not adequately trained and prepared in working with students with disabilities.

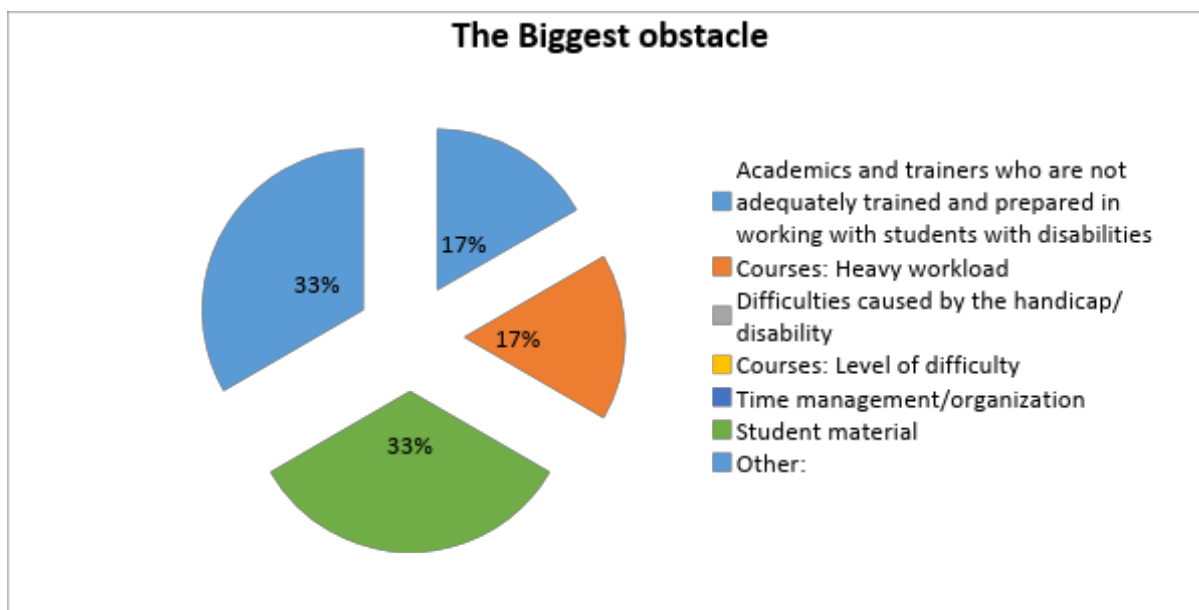


Table 26: Obstacles

Much the same, 43% of the **Disabled university students of upper semester** consider as the biggest obstacle, the inadequate training of academics on teaching students with disabilities and 29% the student material that is not adapted to their needs.

The majority of **academics** consider as major barriers the ones related to the participation of students with disability in the learning process and not the physical or social barriers.

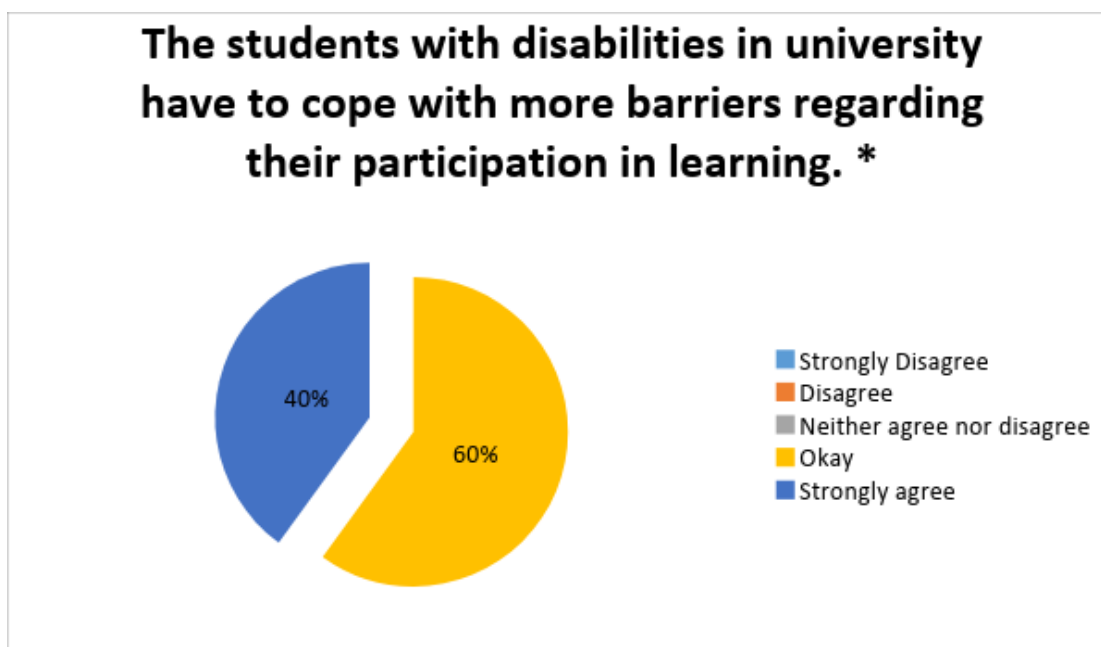


Table 27: Barriers in participation of students with disability in learning process

## 5. Needs analysis in UNLAM

In the needs analysis conducted in the University of Surakarta, participated:

- 9 (nine) first year disabled students, consisting of 6 (six) males and 3 (three) females,
- 5 (five) Disabled university students of upper semester, consisting of 2 (two) females and 3 (three) males,
- 5 (five) academics, consisting of 3 (three) females and 2 (two) males,
- 1 (one) University Manager, consisting of 1 (one) male and
- 2 (two) employers, consisting of 1 (one) male and 1 (one) female.

### 5.1. Accessible learning strategies for students with disabilities

According to **first year disabled university students**, 100% states that they didn't receive good accessibility in high school, including buildings and other learning facilities. Mostly, as found in percentage 67%, there are no special adjustments in exams for the university in the last year of high school. However, the same percentage, has stated that there is specific admission process for the entrance of the students with disabilities in higher education.

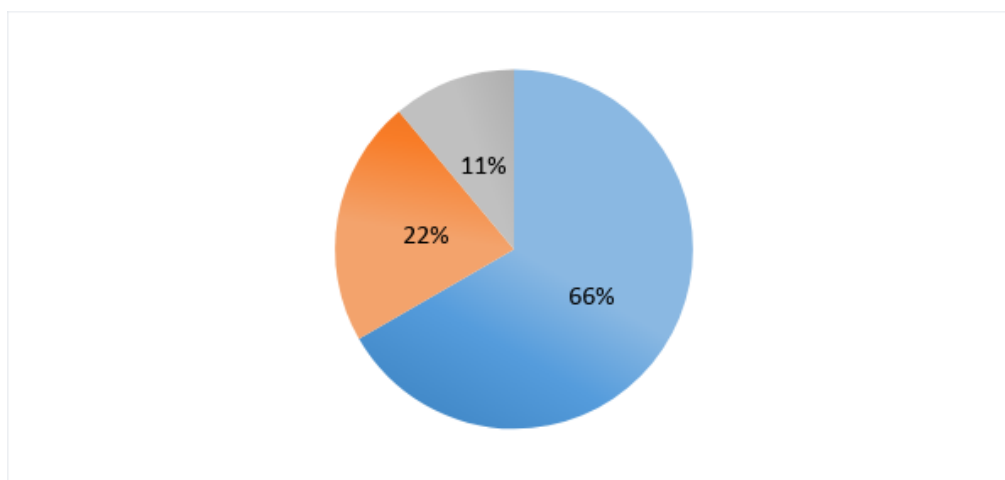


Table 28: Use of accessible material (first year disabled university students)

Regarding the availability of the educational material, 67% agreed that various presentation methods and tools are being used by academics, in order to make the pedagogical material available and accessible to all students with disabilities, as well as several options are provided on how to complete course workload like exams with multiple-choice or developmental questions, oral or written work. Concerning the teaching instructions, first year disabled university students, seem to be divided in two, since only 56% agrees that it was easy to understand and follow, regardless of their level of experience, knowledge or skills.

Similarly, 60% of the **disabled university students of upper semester** strongly agree that academics use various presentations and tools in order make courses more accessible to all students, which makes teaching instructions easy to understand and follow, however, only 40% strongly agree that there is a provision of several options upon the completion of course workload and less than the half (40%) agrees that essential information is communicated effectively and is available and accessible to all students, independently of the student's sensory skills.

As UNLAN **academics** stated, they have worked with approximately 5-8 students with disabilities and 60% of them stated that they have received training, in order to be able to apply accessible learning strategies. The principles of accessibility and universal design for all are present in the course that they are teaching.

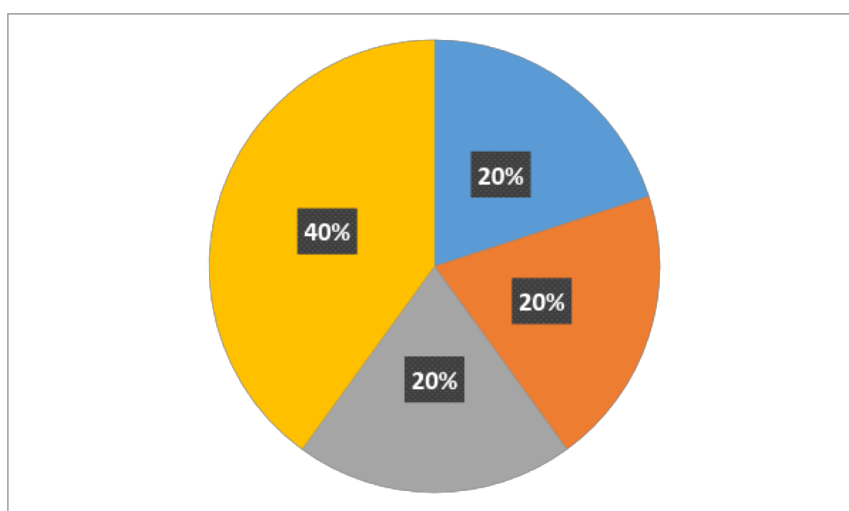


Table 29: Academics take into consideration the principles of accessibility and universal design for all in the course that they are teaching

## 5.2. Provision of services for students with disabilities

A great percentage (89%) of the **first year disabled university students**, classroom space is organized so that every student has the required space, regardless of size, posture and mobility, while on the other hand only 55% of them agrees that the classrooms are easily accessible to students with disabilities. This result seems not to comply with the first one.

Furthermore, 67% states that students with disabilities have guaranteed access to the services provided by their University, same as with every other student and they have stated that the environment is supportive and facilitates the inclusion and participation of all students.

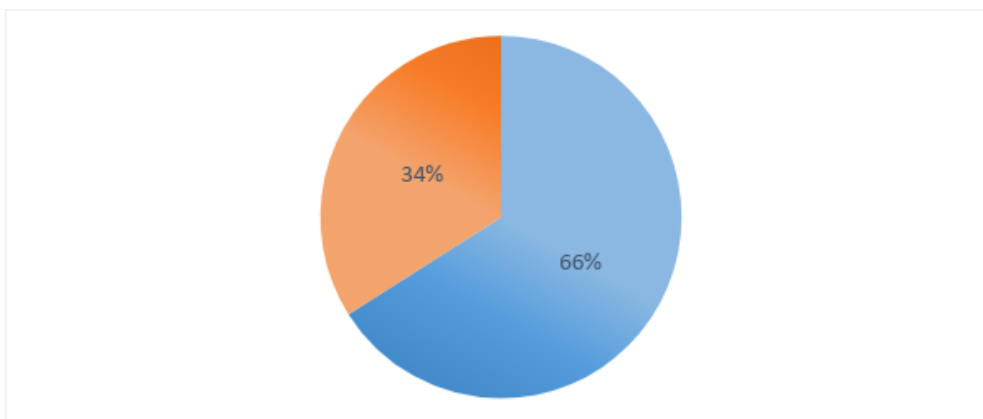


Table 30: Access to the services provided by their University (first year disabled university students)

In general, 89% have agreed that the university must provide services and support structures for students with disabilities to pursue their studies/training normally like other students.

A vast majority (80%) of the **first year disabled university students** stated that classroom space is organized in an accessible way, so that every student has the space required, regardless of size and mobility, while 60% strongly agreed that students with disabilities have guaranteed access to the services provided by their University.

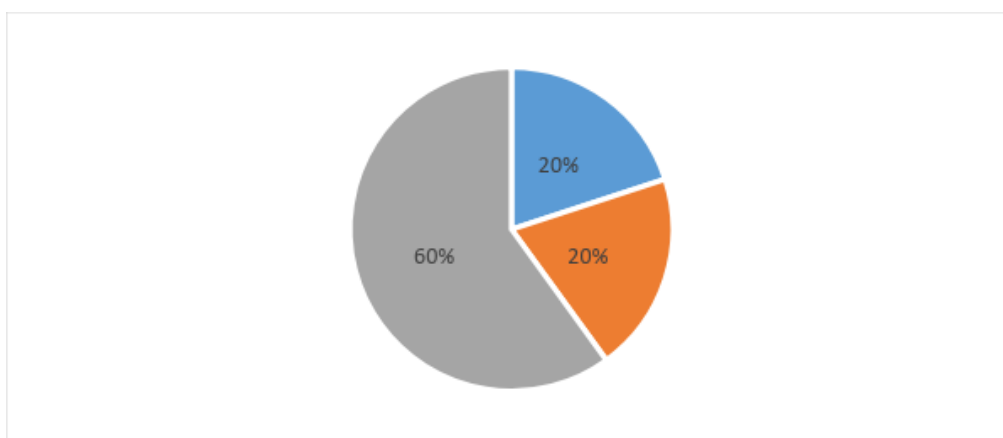


Table 31: Access to the services (first year disabled university students)

In general, as they have stated (66% strongly agree), the university is well-prepared for the educational inclusion of students with disabilities and more than half (66%) agreed that adaptation and student support services help students with disabilities adapt to life and studies in the university as well as provide support to their needs. For this reason, they emphasize the importance of effectiveness of these services in facilitating the students' transition in their education.

As far as the **disabled university students of upper semester**, 80% agree that the classroom space is organized so that every student has the space he/she requires,

regardless of size, posture, and mobility and are easily accessible to students with disabilities.

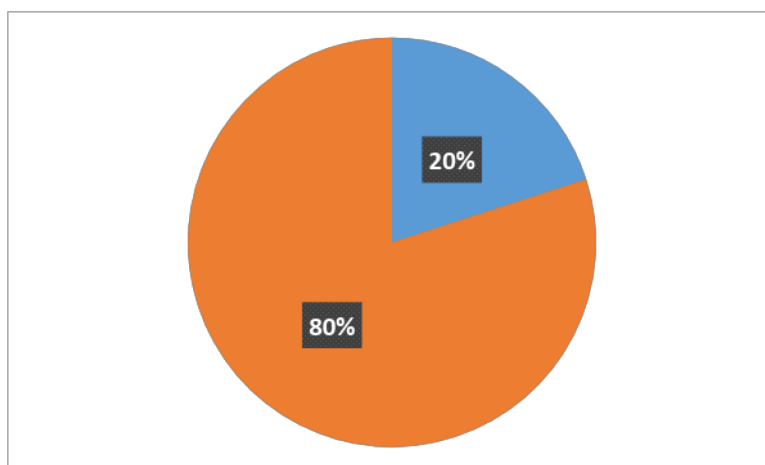


Table 32: The classrooms are easily accessible to students with disabilities (disabled university students of upper semester)

Furthermore, 60% strongly agrees that students with disabilities have guaranteed access to the services provided by their University, same as with every other student. 40% of them is indecisive whether the university must provide services and support structures for students with disabilities to pursue their studies/training normally like other students, while 60% stated its agreement on the university being able to address the needs of students with disabilities by implementing specific adjustments and ensuring the accessibility to the institution's facilities. However, more than half (60%) stated that the university does not make any use of the existing support services, which could be very helpful in facilitating the students' transition in their education.

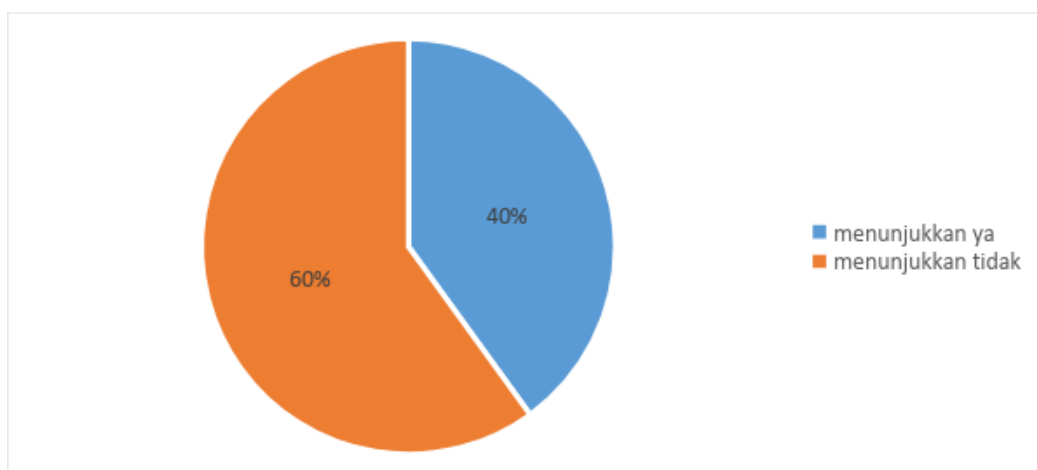


Table 33: Use of the existing support services (disabled university students of upper semester)

According to a vast number of **academics** they are aware of a service and support structure for students with disabilities at their university. 40% of them is indecisive

and strongly agree that students with disabilities have guaranteed access to the services provided by the University, same as with every other student. Also, they neither agree or disagree that the inclusion of students with disabilities at the university depends largely on academics.

Finally, the **university manager** stated that the strategic plan is to improve the access for students by establishing a new accessible building. The university facility that exist now in the educational institute for students with disabilities is the Center for Student with Disability. But this facility has just begun and is not yet fully accessible and as a result not able to fulfil the needs of all students with disabilities.

### 5.3. Use of assistive technologies to enhance the learning process for students with disabilities

The availability of assistive technology in the university is little, according to the majority (67%) of the **first year disabled university students**.

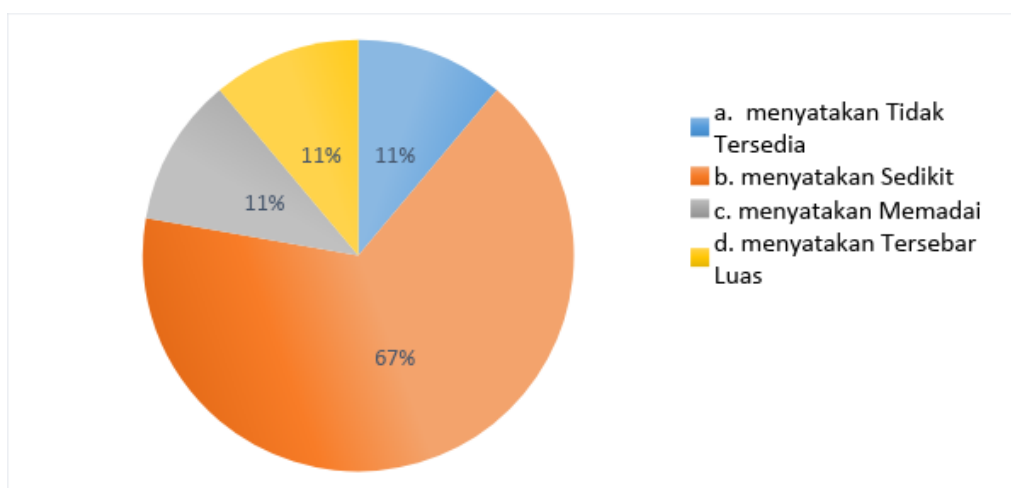


Table 34: Availability of AT in the University (first year disabled university students)

However, the same percentage of **first year disabled university students** (89%), has stated that the academics consider assistive technology when planning and anticipating for students' individual learning needs. As a result, there is an inconsistency between these two statements and could not be taken into consideration. 67% of them states that there is little availability of Assistive Technology in their university, but in case the most popular type of tools are AT applications and software, such as the alternative keyboards.

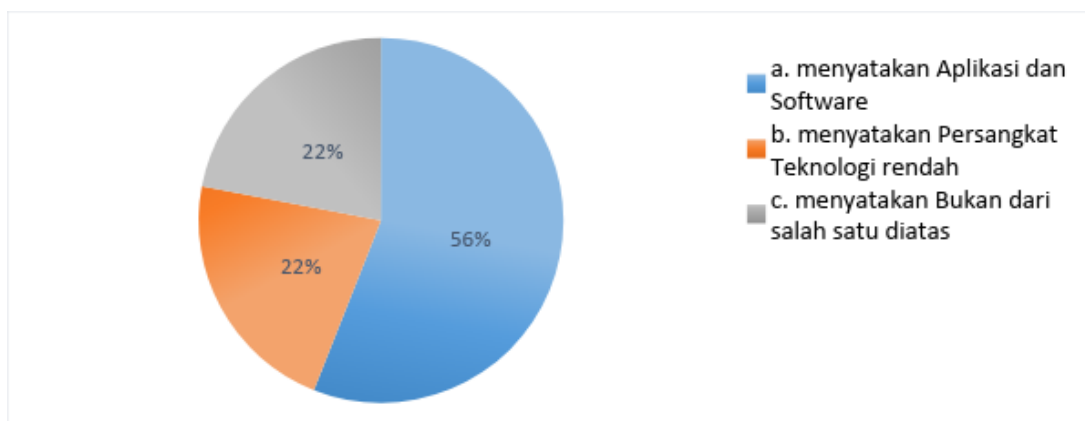


Table 35: Types of AT (first year disabled university students)

The **disabled university students of upper semester** seem not to agree with the first year disabled university students in regards with the use of Assistive Technology. 5 out of 5 students have agreed that there is no use of Assistive Technology and that during their studies they have never met these tools. A vast majority of them (80%) has stated that the academics do not consider making use of assistive technology when planning the learning design for students with disabilities.

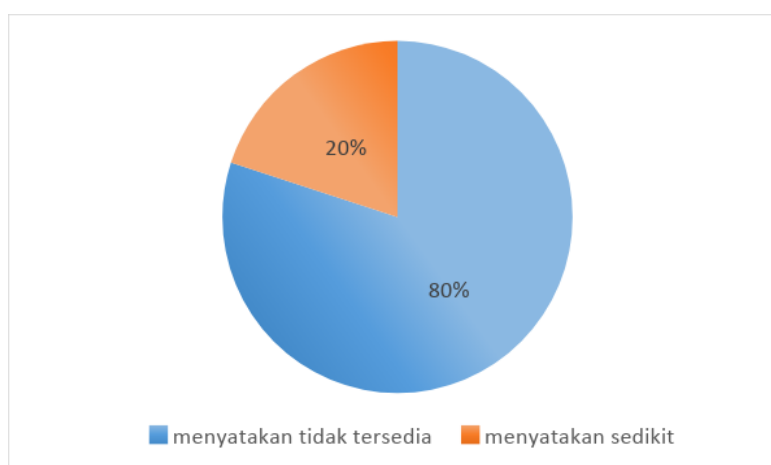


Table 36: The availability of Assistive Technology in the university is non-existent (Disabled university students of upper semester)

Furthermore, they all agreed that no type of Assistive Technology is available in the university.

Concerning the **academics**, they seem indecisive about their knowledge on assistive technology, even though 80% of them stated that they have some knowledge and skills in using ICT and they believe that ICT is fundamental to the delivery of the course content and the implementation of the activities of students.

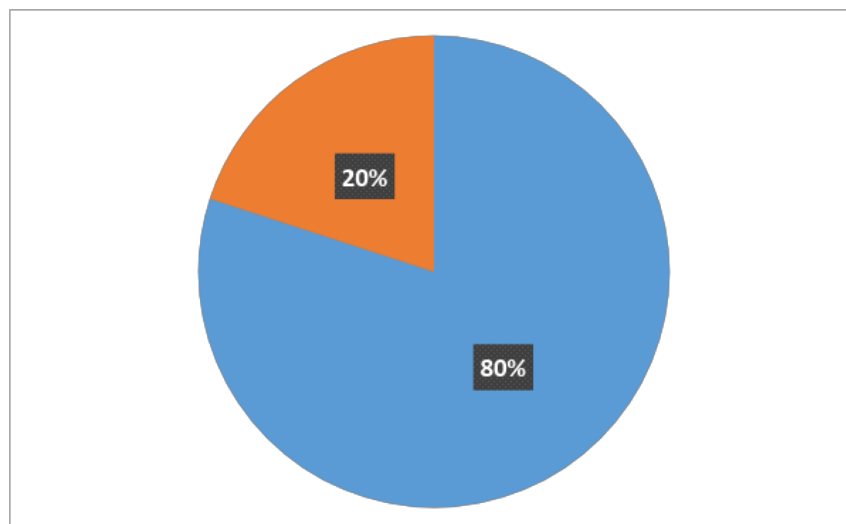


Table 37: 80% of the academics stated that they have some knowledge and skills in using ICT

3 out of 5 academics stated that they had never taken a course on Assistive Technology and all of them seemed to be interested in receiving training in assistive technology, with hands-on instruction in group setting.

#### 5.4. Training needs of academics

The inclusion of students with disabilities at the university depends largely on academics' training on disability and assistive technologies, as the majority of the **first year disabled university students** agreed and strongly agreed (45%). On the other hand, the **disabled university students of upper semester**, seem rather indecisive on the influence of academics' training on disability and assistive technologies, in the inclusion of students with disabilities at the university. In that direction, the vast majority of them (80%) agrees that the environment supports interaction and communication among students and between students and academics.

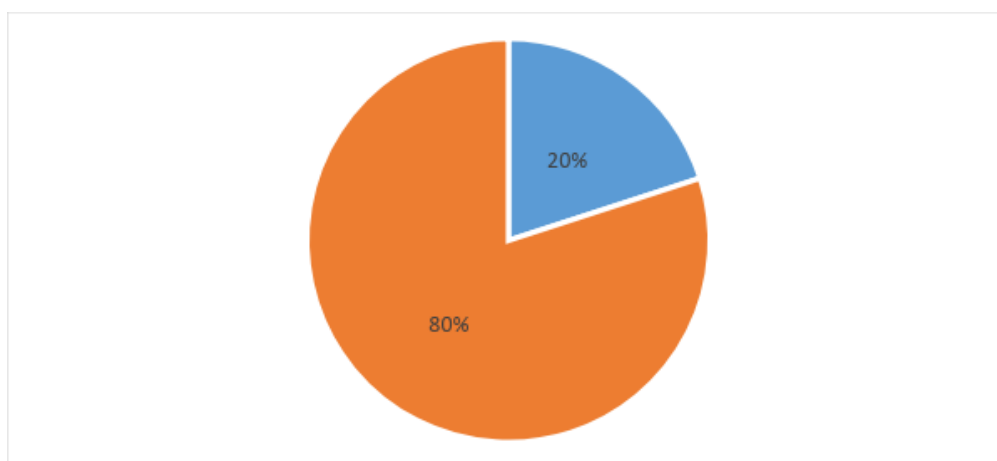


Table 33: Environment of University (disabled students of upper semester)

According to the **academics** they stated that they have been trained and the type of training they have received is by 60% in classroom and by 40% in workshop, however a percentage of 80% agrees that the training that they have received on students with disabilities is limited.

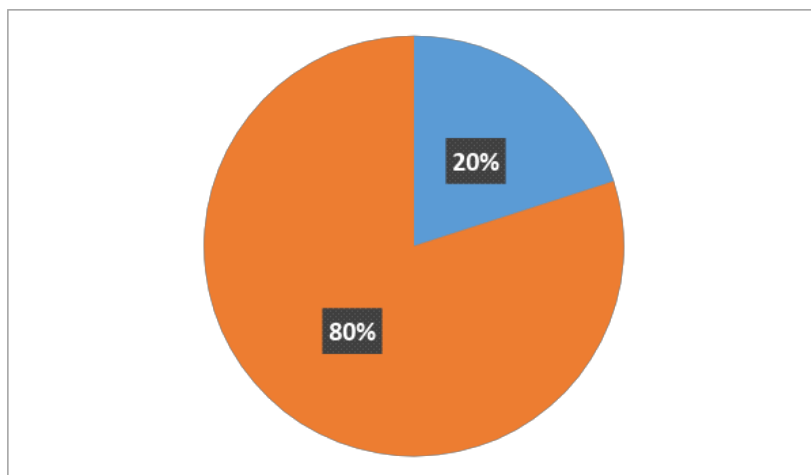


Table 38: According to academics the training they have received on students with disabilities is limited

Regarding the knowledge they already have, even though academics are aware of the meaning of inclusive education and its educational implications, they stated by 40% their worry for having to teach in a classroom that includes students with disability. As a result, all of them agreed that they need to become more aware of the educational needs of these students and that regular advice and support to them, on students with disabilities is necessary. To this direction, conducting training courses within the university on disability, will help academics to become better qualified with students with disabilities.

According to the **university manager** the opportunities for following the appropriate training are provided to improve academic performance related to accessibility for students with disabilities. Currently, it is being managed by Special Education Study Program of Faculty of Teacher Training and Education of the university.

## 5.5. Identification of challenges and barriers faced by students with disabilities and academics

**First year disabled university students** have agreed (45%) that students with disabilities in university have to cope with more barriers regarding their participation in learning.

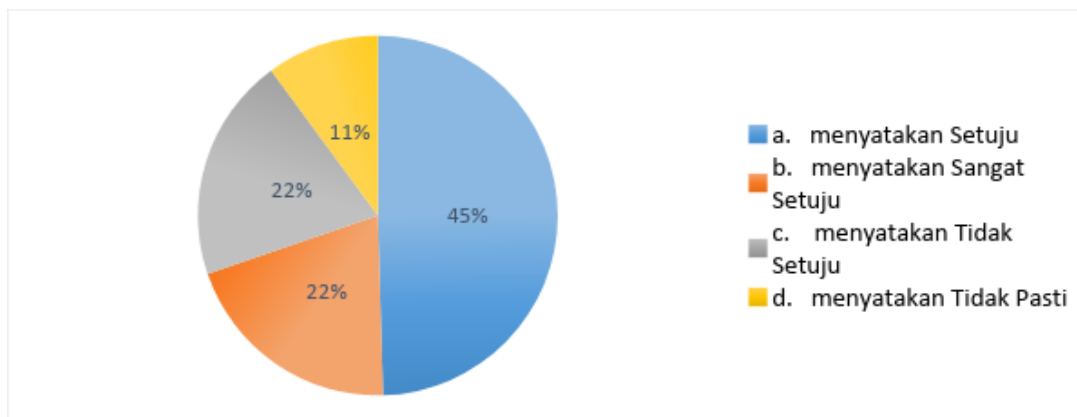


Table 39: Barriers regarding participation in learning, (first year disabled university students)

The biggest obstacles are academics and trainers who are not adequately trained and prepared in working with students with disabilities, difficulties caused by the handicap/ disability and courses, the level of difficulty, student material (notes, books, exams) not being adapted to their needs, knowledge of surrounding environment is less familiar with disabilities. The effectiveness of these services in facilitating the students' transition in their education could be more effective.

On the other hand, the **disabled university students of upper semester** identify as the biggest obstacles in their education, others than the inadequate training of the academics and the inaccessible student material. They identify for instance financial barriers, lack of assistive tools, not accessible classrooms.

The **academics** also agree (40%) that the students with disabilities in university have to cope with more barriers regarding their participation in learning and they strongly agree that these barriers concern mainly physical accessibility. A vast majority of them, strongly agrees that the university must provide services and support structures for these students to pursue their studies like other students and for this reason, the university should create specific groups for students with disabilities. Finally, they disagree on the statement that the university is not prepared for the educational inclusion of students with disabilities, even though students struggle to keep pace with the learning rhythms of other students, and may need mentoring.

## 6. Needs analysis in UIN SUKA

In the needs analysis conducted in the UIN SUKA, participated:

- 11 (twelve) first year disabled university students, consisting of 10 (ten) males and 1 (one) female,
- 15 (fifteen) disabled university students of upper semester, consisting of 11 (eleven) females and 4 (four) males,
- 6 (six) academics, consisting of 5 (five) females and 1 (one) male,
- 1 (one) University Manager, consisting of 1 (one) male and
- 1 (one) employer.

### 6.1. Accessible learning strategies for students with disabilities

All **students** with disabilities (100%) who are respondents stated that according to their experience, UIN Sunan Kalijaga made adjustments for entrance exams. While 50% of respondents said there is an adjustment and 50% no adjustments. 80% states there is an adjustment while 20% states no adjustment. All students with disabilities agreed and strongly agree with the existence of a special line in the process of admission in UIN Sunan Kalijaga. Only 20% of disabled students are disagreeing with special acceptance.

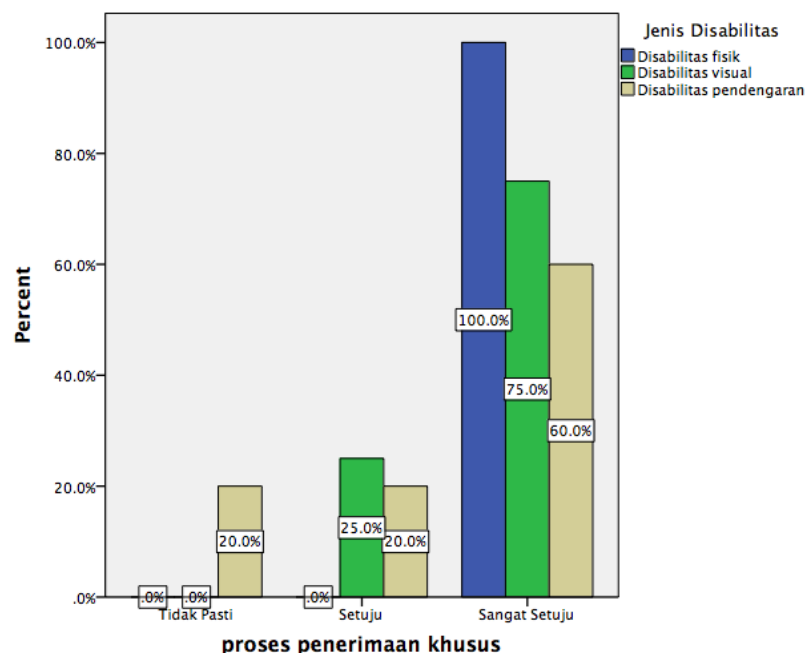


Table 40: Special admission process

Regarding the presentation methods and tools More than 75% of disabled students with different types of disabilities agree and strongly agree with the lecturer's methods and tools that facilitate students with disabilities in the learning process.

Based on the survey, not all students with disabilities understand the instruction given by the lecturer in their learning. Only one student answered that always understands the instruction of lecturers in learning.

Based on the survey 33% of **academics** find it difficult to teach disabled, 16.67% feel no difficulty and 50% feel uncertain (sometimes difficult sometimes not difficult). All lecturers have an awareness that they must know or understand the needs of students with disabilities and 66% agree that these students need guidance. Most of them (50%) have incorporated universal accessibility and design principles in SAP / RPS courses, while 16.67% have not included the principles and 33.33% are still confused about how to incorporate universal accessibility and design principles. Some lecturers (50%) always provide notes and teaching materials before learning and 50% of lecturers sometimes give notes and teaching materials before learning, while 66.67% of them always involve practical assignments arranged in group work. As most lecturers (50%) stated, UIN Sunan Kalijaga is not ready to provide inclusive education, while 33.33% said UIN Sunan Kalijaga is ready to provide inclusive education.

## 6.2. Provision of services for students with disabilities

Based on the survey, UIN Sunan Kalijaga has provided access services for **students** with disabilities. The answer of respondent with disability type stated that agree and strongly agree with access already given in UIN Sunan Kalijaga. Over 50% of disabled and deaf students feel the classroom is set so that they can adjust according to their body size, posture and mobility. Whereas 75% of disabled states that there is no suitable arrangement. The campus environment of UIN Sunan Kalijaga is quite accessible for all students with disabilities. Visible survey results more than 50% of students with disability type states the environment is quite accessible. All students with disabilities agree and strongly agree that UIN Sunan Kalijaga campus has provided structure and service for Disabled student.

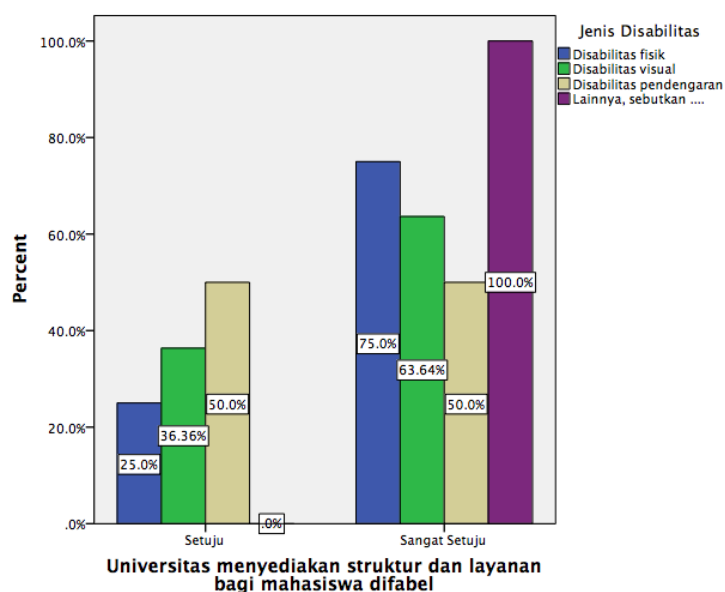


Table 41: The university provides student structure and services

All disability students agree and encourage universities to be ready to manage inclusive programs for disabled students. Only 10% of students disagree and declare uncertain.

All respondents agree that UIN Sunan kalijaga has support services / adaptation services for disabled students.

83.33% of **academics** agree that the disabled is given access to services from the university, while 16.67% answered uncertain. 66,66% lecturers stated that the class is accessible for disabled students while 16,67% stated not accessible and 16,67% answer uncertain.

The Vice Rector for Students and Partnership Affairs (**University Manager**) mentioned that the Disability center has been established since 2006, although it received legal status, and thus financial support from the university only in 2013. The affirmative policy on admitting the students with disabilities in UIN Sunan Kalijaga has been in place since the beginning of the Center's establishment, and followed by ensuring the accessibility in the admission, learning process as well as certain level of physical accessibility throughout the campus building.

There are various aspects however need to be improved, according to the Vice Rector, in order to better support students with disabilities. The Head of the Centre has proposed a road map need to be followed by the university to achieve a better inclusive environment. However, budget limitation prevent remain to be a challenge for the implementation of the road map. One aspect, according to the Rector, need to be dealt more seriously in order to improve the quality of services for student with disabilities is capacity building for all the faculty members and administrative staffs. This can be done through regular workshops and other training programs.

The **employer** that was interviewed stated that in the company they have internship programs for students with disability. Particularly with workers with mental disabilities or physical disabilities, they lower the quality and put a sticker in the product explaining that it was produced by people with disabilities.

### 6.3. Use of assistive technologies to enhance the learning process for students with disabilities

More than 75% of disable **students** think that UIN Sunan Kalijaga has utilized the assistive technology, only 25% of disable students believe that the university has not utilized the assistive technology. Based on the survey, lecturers utilize assistive technology in the learning process. The majority of students with disabilities believe that UIN Sunan Kalijaga is still a little willingness of assertive technology, only 40% of students who answered adequate assistive technology in UIN Sunan Kalijaga. Based on survey the most amount of assistive technology is 1. Application and software, 2.Low technology device, 3.Medium technology device and 4.High technology device. Based on assistive technology surveys that help disabled students as follows: a. Difabel daksa: (1.) touch screen (2) alternative keyboard; b. Celebral palsy: touch screen; c. Different Netra: (1) screen reader, (2) alternative keyboard (3) touch screen, (4) reading aids and learning programs for the disabled; d. Deaf diable: (1) alternative keyboard, (2) reading aids and learning programs to be disabled, (3) touch screen.

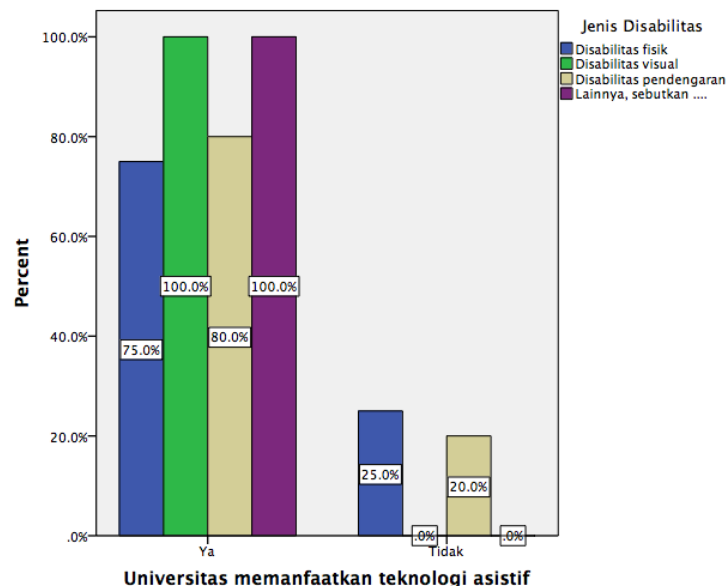


Table 42: The university utilizes Assistive Technology

Regarding **academics**, all agree that Information and Communication Technology (ICT) plays an important role in the delivery of content and implementation of student activities. However, 83.34% admitted to have limited knowledge about assistive technology, since non of them ever attended an assistive technology course. In

learning the assistive technology the lecturer chooses several methods as follows: (1) direct learning in the form of groups, (2) attending workshops or conferences, (3) Formal courses. In particular, 33.33% of them quite often and always use visual aids during learning and 16.67% never use visual aids.

#### 6.4. Training needs of academics

All **academics** have attended the teaching training held by PLD (Service Center Disabled), which was organized by (1) universities as much as 66.67% and (2) university advocates 33.33%. The forms of training that have been followed by lecturers are: (1) Class Training, (2) others: Focus Group Discussion (FGD). Survey shows that the training or teaching training of students with disabilities is very limited, with the composition of lecturers' answers as follows; 50% of lecturers answered agree, 33.33% strongly agree and 16.67% disagree. This shows the need to increase the intensity of teaching training for students with disabilities. All lecturers agree and strongly agree that the University's disability-related training can help academics become more qualified in dealing with students with disabilities.

#### 6.5. Identification of challenges and barriers faced by students with disabilities and academics

Most disable **students** agree that they alone have a role in overcoming barriers to learning participation. 75% of students with disabilities agreed, 85% of first year students agreed and strongly agreed and the students of upper semester also agreed. Inhibiting factors in the learning process based on the survey: 1. Lecturers and trainers who are not trained to teach students with disabilities. 2. Difficulty due to disability, 3. Heavy college load (subject), 4. Degree of difficulty of course, 5. The teaching material is not adjusted to the needs of disabled students.

The survey shows that 66.66% of **academics** stated that students with disabilities do not experience physical and social obstacles in UIN Sunan Kalijaga. Only 33.33% stated that students have physical and social problems in UIN Sunan Kalijaga. As a result, they all agree and strongly agree that the university should provide a service and facility structure for disabled students to be able to study like any other student.

## 7. Needs analysis in UNESA

In the needs analysis conducted in the UNESA participated:

- 3 (three) first year disabled students, consisting of 2 (two) males and 1 (one) female,
- 6 (six) disabled university Disabled university students of upper semester, consisting of 4 (four) males and 2 (two) females,
- 14 (fourteen) academics, consisting of 8 (eight) females and 6 (six) males,
- 5 (five) University managers, consisting of 3 (three) males and 2 (two) females and
- 6 (six) employers, consisting of 2 (two) females and 4 (four) males.

### 7.1. Accessible learning strategies for students with disabilities

2 (two) out 3(three) **first year disabled university students** stated that the accessibility in the senior high school was good due to the support by Special Education teachers and they had special adjustment services before enroll to the university. All of them agree that there are various presentation methods and tools (written and verbal) being used by academics, in order to make pedagogical material available and accessible to all students and several options are provided on how to complete course workload like exams with multiple-choice or developmental questions

According to **academics**, it is quite difficult to adjust the contents and materials subject to the needs of the students with disabilities.

### 7.2. Provision of services for students with disabilities

The 2 (two) **employers** participated in the survey, gave rather discouraging information about the provision of services in the market field about students with disability. In particular, they stated no incentive for having students with disability, due to limited policy adjustments for employees with disabilities. As a result there are not at all special programs for internship for students with disabilities in their company. Another basic problem that discourage them from hiring students with disabilities, is the fact that they do not have any accessible infrastructures for employees with disabilities. There is no personnel trained to cooperate with disabled people and no adequate funding sources are foreseen in order to promote and support employees with disabilities.

### 7.3. Use of assistive technologies to enhance the learning process for students with disabilities

According to first year disabled students and upper semester students, in the university there is no use of Assistive Technology. Sometimes there is use of low tech devices, according to half of the upper semester. Furthermore, the knowledge of assistive technologies that academics have, is quite limited in order to be able to communicate with students with disabilities.

### 7.4. Training needs of academics

According to **academics** assistive technology is fundamental to the delivery of their content and the implementation of the activities, although the majority of them stated that they had some but not extensive knowledge in using assistive technology, since they have never attended a course on them. Also, the training received on students with disabilities is limited. As a result, they all agreed that it is necessary to attend a course/training on Assistive Technology. The preferred method for learning about Assistive Technology is hands-on instruction in group setting.

### 7.5. Identification of challenges and barriers faced by students with disabilities and academics

The biggest obstacles recognized are academics and trainers who are not adequately trained and prepared in working with students with disabilities, which causes a lot of problems.

On the other hand, the **disabled university students of upper semester** identify as the biggest obstacles in their education, others than the inadequate training of the academics and the inaccessible student material. They identify for instance financial barriers, lack of assistive tools, not accessible classrooms.

According to **academics**, students with disabilities at university face physical and social barriers. The students with disabilities in university have to cope with more barriers regarding their participation in learning. The majority of them, states that the university must provide services and support structures for these students to pursue their studies like other students and for this reason, the university should create specific groups for students with disabilities.

## 8. Overall key findings

A very important part of this project is to recognize the existence of disability, which has been observed per Indonesian HEIs, that urges for the establishment or optimization of support centers in all Indonesian Universities that participated in the current survey. The following Table shows the overall view of different types of disabilities in all Indonesian HEIs:

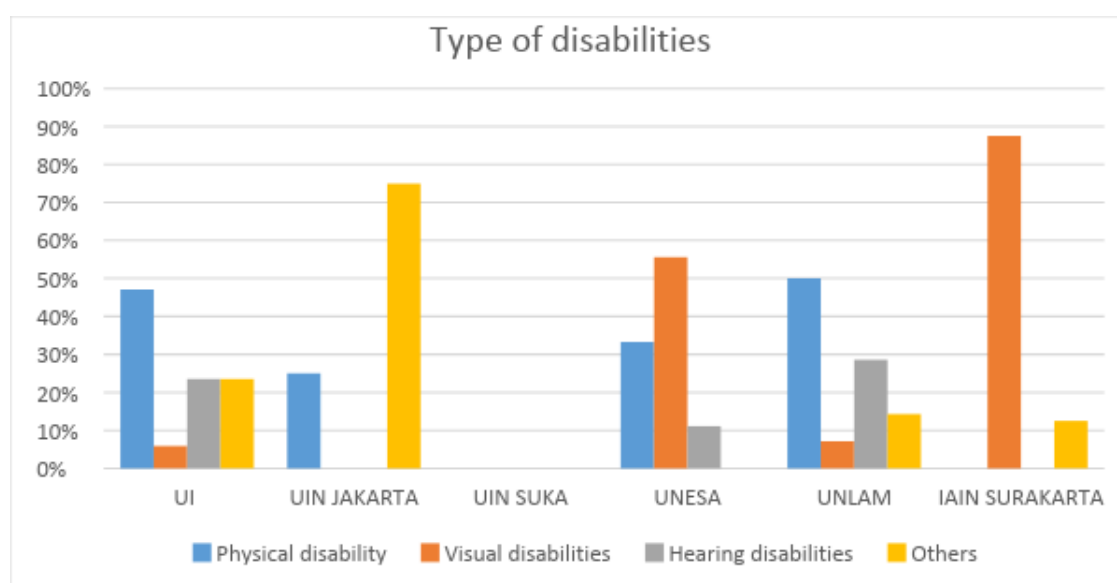


Table 43: Type of disabilities per HEI

The disabilities met in the Indonesian Universities are mainly physical, visual and developmental, such as Autism. Each of these disabilities address different needs in relation to learning strategies, infrastructural accessibility, training needs of academics and assistive technology applications.

Special attention should be given to the use of assistive technology. The analysis of data collection in Indonesian HEIs, has given similar findings about the use of Assistive Technology (AT) tools, in the Indonesian HEI. The results have proved the willingness of the academics to incorporate accessible applications and tools in their lectures, even though the majority of them has stated to have limited knowledge and skills in using assistive technology. In Table 44 it is very clear presented the tendency of the use and the type of Assistive Technology that has been used. In particular, 3 out of 6 Universities make no use of assistive technology, while in the other universities there is mainly use of low-tech devices or assistive technology application and tools. Some of the assistive technology devices and tools that could be most helpful according to the students are: Alternative keyboards, Electronic pointing devices, Joysticks, Trackballs, Touch screens, Light signaller, reading tools and learning disabilities

programs, Speech recognition or voice recognition programs, Text-to-Speech (TTS) or speech synthesizers.

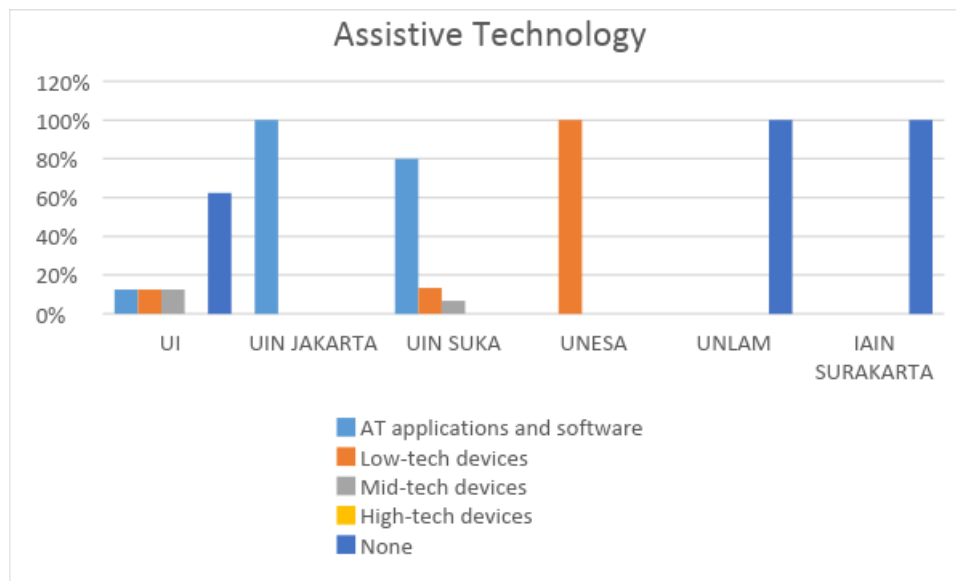


Table 44: Use of Assistive Technology per HEI

Under these circumstances, students with disability, both of first year and upper semester, feel that their institutions are facing a lot of barriers in their attempt to address their learning needs, in terms of methodological approach and accessible material used to facilitate the needs of an accessible lecture. In this direction, most of the academics, have admitted that they might not feel comfortable when in the classroom are included students with disabilities, because they feel unready to fulfil their needs. This situation results in the decrease of the student engagement.

Overall, in all of the universities, first year disabled students seem to be more optimistic and positive regarding the accessibility conditions, in comparison with the disabled students of upper semester. This is well-explained because students of upper semester have a more complete picture of the facilities offered by their University and also of their learning needs and how these can be effectively addressed.

All of the above findings lead to the conclusion that training of the academics is a very important factor that can bring crucial change in the accessibility condition of the Indonesian Universities. All of the university managers focused on the training of the academics as a requisite factor for the establishment of the support centres for students with disabilities. In the same pace, academics, agreed that it is important to receive training concerning accessibility issues, so that they can effectively address the needs of students with disabilities. All of the participants stated that the most preferred method of training would be the group training with hands-on activities.

Though the INDOEDUC4ALL training, academics are expected to be able to provide multiple means of action, expression and representation, to communicate their knowledge, by offering alternatives to text, audio and visual information. Existing

resources and experiences should be collected and used in the training to serve as examples of good teaching practices. This is the purpose of the collection of good practices that will be developed within Indoeduc4all project.

Even the employers surveyed admitted that it is essential to train their employees in order to be able to accept students with disabilities. Some of the employers stated that their companies have a compulsory training programme for all employees concerning accessibility issues. However, limited number of companies seem to hire students with disabilities.

## 9. Final considerations and recommendations

Some recommendations to the academics and university managers that derive from the above key findings are summarized in the following statements:

- Each university is responsible to provide guaranteed access to services that facilitate the overall accessibility of students with disability.
- The pedagogical material should be available and accessible to all students, through various presentation methods and tools (written and verbal) being used by academics.
- Teaching instructions should be easy to understand and follow for all students.
- The infrastructure of each university should be organized in a way that every student has the required space and ensures that the environment supports interaction and communication.
- Training needs for both academics and students with disabilities, should be recorded and addressed all the time through new methods.
- The training of academics on disability and assistive technologies should be deployed at regular intervals and be obligatory in every university.
- Each university should be able to assure funding for facilitating support services for students with disabilities.
- In regards to the selection of assistive technology, it is important that the HEIs consider the following questions, which need to be made a priority:
  - What educational opportunities and benefits does the university provide through the use of the technology?
  - How will the technology provide these opportunities and benefits?
  - Does the technology exist in a format that is accessible to students with disabilities?
  - If the technology is not accessible, can it be modified, or is there a different technological device available, so that students with disabilities can obtain the educational opportunities and benefits afforded by it in a timely, equally effective, and equally integrated manner?

As a final consideration, it is worth saying that the key purpose of all the activities of WP1, and in particular the needs analysis report, is to reflect on the situation of

accessibility in the Indonesians HEIs, aiming to serve as reference document for WP2. It should be noted that some of the presented findings require further investigation, which can be obtained via the future meetings and interaction with the Indonesian partners.