InSIDE: Including Students with Impairments in Distance Education

Deliverable DEV5.4	**Assessment of the quality of DE pilot courses**

Work Package	WP5: DE Pilot Courses
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Contents

Abbreviations

Acronym	Term
DE	Distance education
HE	Higher education
HEI	Higher education institution
ICT	Information and communications technology
InSIDE	Including Students with Impairments in Distance Education
IwI	Individual with impairments
JKU	Johannes Kepler University
LMD	Licence, Master, and Doctorate
UABT	University of Aboubekr Belkaid Tlemcen
UAE	Abdelmalek Essaadi University
UB2LA	Blida 2 University
UCA	Cadi Ayyad University
UIT	Ibn Tofail University
UM5R	University of Mohammed V in Rabat
UMMTO	Mouloud Mammeri University of Tizi-Ouzou
UOA	National and Kapodistrian University of Athens
UOM	University of Macedonia
US	University of Sousse
USFAX	University of Sfax
USTO	University of Sciences and Technology of Oran Mohamed Boudiaf
UTM	University of Tunis El Manar
ViHeMo	Visual, hearing, mobility/physical
WP	Work Package

About InSIDE

The aim of the project is to develop accessible DE programmes for individuals with ViHeMo impairments. The concrete aims are to: a) develop an accessible, inclusive and educationally effective model of DE that will deliver key competences for vocational rehabilitation, and provide opportunities for lifelong learning, skills enhancement, and personal fulfilment with the ultimate aim of suggesting an intelligent solution against the problems of limited access or high percentage of dropouts in HE in IwI, b) structure a strong cooperation between organisations with sound expertise in accessible and inclusive HE and organisations where both the modernisation of HE and the promotion of the right to education of IwI is imperative, and c) widen the horizons of local HE towards an international and intercultural education through DE programmes.

The overall objectives of the project are to:

1) Develop new and innovative, accessible and inclusive DE programmes improving the quality of HE for individuals with ViHeMo impairments and offering flexible learning and virtual mobility
2) Upgrade the facilities through establishing accessibility offices and acquiring assistive technology resulting in modernization of university services
3) Build capacity and professional development in administrative and teaching staff in developing and carrying out accessible and inclusive DE programmes, and operating the accessibility offices
4) Involve individuals with ViHeMo impairments in a user-center design so that accessibility and usability are achieved in conjunction, and the links between education and society are strengthened

The specific objectives of the project are:

- The preparation of the development stage through an extended literature review for precedent trials in DE for IwI
- The development of the most suitable educational material for IwI (ViHeMo) in terms of accessibility, usability and educational efficacy through the study of end-user requirements
- The adaptation of a course delivery system that best serves the needs of IwI (ViHeMo) in DE
- The foundation of accessibility services in HE so that SwI would be supported during their attendance in HE
- The training of advisors in the services of the accessibility offices, and the training of the trainers (advisors and representatives) so that they will be able to train the end-users (teaching staff and IwI)
- The examination of the regular co-operation of all the above to deliver inclusive DE courses effectively when learning and skill enhancement are concerned, considering end-users feedback too
- The dissemination and exploitation of the project deliverables on an international level.

1. Introduction

The present report resulted with the completion of the Activity 5.3.2 "Examination of the quality of the pilot courses through interviews (will be implemented via teleconferences) with the accessibility advisors and the trainers-representatives, and through questionnaires addressed to the teaching staff and the individuals with impairments". The aim of the activity at hand was to assess the quality of the pilot courses implemented by the partners from Morocco, Algeria and Tunisia [A.5.1.2 "Pursuance of the accessible DE programmes for checking both the efficacy of the prepared DE tools (educational material, LMS, accessibility office) and their ability to culminate in knowledge acquisition"].

2. Participants

2.1. Interviews

Ten *accessibility advisors*, 5 males and 5 females, participated in the assessment of the pilot-courses. The participants came from four universities; 4 participants came from the University of Mohammed V in Rabat (UM5R, Morocco), 2 participants from the University of Sousse (US, Tunisia), 2 from the Mouloud Mammeri University of Tizi-Ouzou (UMMTO, Algeria), and 2 participants came from the University of Sciences and Technology of Oran Mohamed Boudiaf (USTO, Algeria).

Moreover, 17 *trainers-representatives***,** 6 males and 11 females, participated in the assessment of the pilot-courses. The participants came from four universities; 4 participants came from the University of Mohammed V in Rabat, 2 participants came from the University of Sousse, 7 from the Mouloud Mammeri University of Tizi-Ouzou, and 4 participants came from the University of Sciences and Technology of Oran Mohamed Boudiaf.

2.2. Questionnaires

Eighteen *members of the teaching staff*, 7 males and 11 females, participated in the assessment of the pilot-courses. The participants came from four universities; 4 participants came from the University of Mohammed V in Rabat, 4 participants from the University of Sousse, 7 from the Mouloud Mammeri University of Tizi-Ouzou, and 3 participants came from the University of Sciences and Technology of Oran Mohamed Boudiaf.

Thirty-five *students with impairments*, 19 males and 16 females, participated in the assessment of the pilot-courses. Twenty-seven of the participants were individuals with visual impairments, 2 with hearing impairments, and 6 individuals with mobility impairments. The participants came from four universities; 6 participants came from the University of Mohammed V in Rabat, 5 participants came from the University of Sousse, 12 from the Mouloud Mammeri University of Tizi-Ouzou, and 12 participants came from the University of Sciences and Technology of Oran Mohamed Boudiaf.

Moreover, thirteen *members of the supervising team*, 7 males and 6 females, participated in the assessment of the pilot-courses. The participants came from four universities; 4 participants came from the University of Mohammed V in Rabat, 2 participants came from the University of Sousse, 5

from the Mouloud Mammeri University of Tizi-Ouzou, and 2 participants came from the University of Sciences and Technology of Oran Mohamed Boudiaf.

3. Instruments

3.1. Interviews

The quality of the pilot courses was examined through teleconferences where semi-structured interviews were addressed to the accessibility advisors and the trainers-representatives. The four questions including in the semi-structured interview were the following:

1. Which are the problems (difficulties, deficiencies) you encountered during the training?

2. In your opinion, what are the results of the training for the participants regarding the knowledge and skills acquisition?

3. What was the reaction of the trainees (their disposition towards participation)?

4. What is the satisfaction of the trainees regarding the training they received?

3.2. Questionnaires

The participants' satisfaction was examined through specific-designed questionnaires to all the different parts (teaching staff, students with impairments and supervising team). In Appendix 1 the entire three questionnaires are presented. The questionnaire applied to the teaching staff, as well as the questionnaire applied to the students with impairments, consist of 9 questions (7 closed-ended questions and 2 open-ended questions). The questionnaire applied to members of the supervising team consists of 2 open-ended questions.

4. Results

4.1. Interviews

4.1.1. Accessibility Advisors

The following tables present the answers (items mentioned) of the Accessibility Advisors and the frequency of occurrence (number of times mentioned) of each answer for each of the four questions of the semi-structured interview.

Items mentioned	Number of times
Lack of technological skills	2
Trainees did not have their passwords in time	2
Some problems accessing the Moodle platform	1
Lack of braille embosser	1
Motivating the student to go through the pilot experiment, as it was difficult for many of them due to the lack in online learning skills	2
Issues related to mobility for attendance of the face-to-face seminar before launching the pilot experiment	2
Make a course about one topic, web or mobile or SI	2
Keep quiz, keep the flow and maybe enhance the quiz.	5
The course is good, perhaps adding some figures or images.	6
Add quiz	1
Add more content on Moodle rather than just putting resources	1
Slides or pdf	1

Table 1. Question 1: Which are the problems (difficulties, deficiencies) you encountered during the training?

Items mentioned	Number of times
Knowledge on the use assistive technology	2
Some of students are not familiar to Moodle. some students used to learn in Arabic	1
The results of the training for the participants with regard to the acquisition of knowledge and skills is as expected very satisfactory	1
Knowledge of hardware and software relating to accessibility	1
Inspiring students to do better with impairments	1
Introduction of SWD to new accessibility technologies	1
Raising awareness on the importance of digitalization for accessible learning resources	2
Discovery of the main functionalities of an eLearning platform	2
Using a variety of learning and assessment online activities	2
Develop more comprehension	5
It is a very good initiative	5
All participants have succeeded in the acquisition of knowledge and skills	5

Table 2. Question 2: In your opinion, what are the results of the training for the participants regarding the knowledge and skills acquisition?

Items mentioned	Number of times
They were passionate	2
Happy to give their time to others	1

Surprised at how easy it is to make their courses accessible	1
The pilot experiment was delivered during the exam period, it was difficult for them to manage and the necessary time to be fully engaged in this experiment	2
They highly appreciated the initiative and were convinced by the great advantages in using digital learning for accessible education	2
All trainers were engaged in all activities from the beginning	2
Satisfied	1
Awesome. It was an opportunity to discover the concept of accessibility for people with special needs	5
Excellent	5

Table 3. Question 3: What was the reaction of the trainees (their disposition towards participation)?

Items mentioned	Number of times
They were satisfied	2
Trainees' satisfaction with the training they received is important	1
Happy to learn tools that are easy to use but very helpful to others	1
Trainees were extremely satisfied by the project objective's and by this innovative experiment	2
Good	2
All trainers have succeeded the training	2
They called for a further training session	2

Table 4. Question 4: What is the satisfaction of the trainees regarding the training they received?

4.1.2. Trainers-representatives

The following tables present the answers (items mentioned) of the trainers-representatives and the frequency of occurrence (number of times mentioned) of each answer for each of the four questions of the semi-structured interview.

Items mentioned	Number of times
Limited accessibility of training materials for individuals with motor impairments	3
Technical issues or limitations with the online learning platform, such as difficulties accessing or navigating the course materials	4
Inadequate time or scheduling conflicts, making it challenging to fully engage in the training or allocate sufficient time for assignments and practice	2

The time, the participants ask whether the duration of the training should be longer	7
No difficulties	10
Lack of knowledge to use computers by some students with disabilities	7
Problem in encouraging students with special needs to travel to participate in face-to-face sessions	2
Infrastructure of some schools is not adapted to students such as presence of steps/stairs	2
Access the platform especially for blind	1
Languages problem	1
Maybe we need more time to explore the materials.	1
It is the first time that we take such training	1

Table 5. Question 1: Which are the problems (difficulties, deficiencies) you encountered during the training?

Items mentioned	Number of times
The participants have gained new knowledge and skills about the inclusion in higher education and the accessibility, and also about home automation and accessibility	4
The participants have developed practical skills in applying the acquired knowledge to real-world scenarios	3
Knowledge on the use of assistive technology	7
Knowledge about inclusive concept	7
The functions of the different software and the category of students for Which they are intended	7
Methods for interacting with students with special needs	7
The training was beneficial for the participants. Regarding the acquisition of knowledge and skills, for those who carried out the different activities	2
The results were acceptable and satisfactory as a first experience with the platform	2
All participants have succeeded in the acquisition of knowledge and skills	4
It is a very good initiative	1

Table 6. Question 2: In your opinion, what are the results of the training for the participants regarding the knowledge and skills acquisition?

Items mentioned	Number of times
Very motivated to learn more	12
Attention	7
Curiosity	7
Ready to do more	7
Hope to achieve the objectives or the targets of the project	7
Enthusiasm	7
Students were motivated to participate except those who have problems moving around or who are taking their exams	2
Good reaction	3

Table 7. Question 3: What was the reaction of the trainees (their disposition towards participation)?

Items mentioned	Number of times
Very satisfied	13
According to the survey they were Satisfied	1
Ready to do more and improve their skills	7
The trainees were very satisfied with the training they received. They asked to redo the training for other students.	2
Excellent	1

Table 8. Question 4: What is the satisfaction of the trainees regarding the training they received?

4.2. Questionnaire (open-ended questions)

4.2.1. Teaching staff

The following tables present the answers (items mentioned) of the members of the teaching staff and the frequency of occurrence (number of times mentioned) of each answer for each of the two open-ended questions included in the questionnaire.

Items mentioned	Number of times
Advantage: Enhanced understanding of how to implement Accessibility and gained a deeper understanding about inclusive	1

teaching strategies as well as improved teaching practices	
Advantage: Students from diverse range of specialties could benefit from a multidisciplinary approach.	3
Advantage: Gaining a holistic understanding of physical and digital accessibility in smart homes	1
Advantage: For some students, it was the first time to use an English environment to learn	1
Advantage: Accessible documents were simple and easy to share and to download	2
Advantage: New skills developed	7
Advantage: Self-satisfaction when helping students with disabilities	7
Advantage: Integration of students with special needs in distance education	7
Advantage: Challenges to overcome in our university	6
Advantage: We have learnt a new way of doing our lessons and being responsible for making all our documents accessible	5
Advantage: We communicated easily with students with impairments	6
Advantage: We learned a lot about communication technologies	4
Advantage: We found it very easy to express ourselves using the means at our disposal	6
Advantage: The students showed greater interest	7
Advantage: Discovery and identification of the needs of the students of my university with specific needs in terms of digital learning and accessible education	4
Advantage: Acquire new skills for teaching students with special needs. This experience was an opportunity to get an idea of the needs of these students at university	4
Advantage: New skills	4
Advantage: Share and disseminate the contents	1
Drawbacks: Need more time	1
Drawbacks: condensed program	1
Drawbacks: Were the limited time constraints and limited follow-up support	1
Drawbacks: The initial issue of trainees not having their passwords	2
Drawbacks: We did not use the hardware received in the project	3

Table 9. Question 8: What are the advantages and the drawbacks of the programme you participated?

Items mentioned	Number of times
It would be beneficial to extend the duration of the training program as well as providing continued support and mentoring	2
To define the course title and the target	1
More training on the use of computers	7
Give some material help for those students with disabilities who have no computers and/or internet	7
More training	7
More practice	7
Ensure monitoring	6
We want the method to be used throughout the academic year	5
We have limited ourselves to just a few functions of the MOODLE platform, but we want to improve our mastery of this platform, which has more resources for accessibility	4
We need to focus on middle and high school students, as it is at this level that most students leave school	3
More reflection for the design of the resources	1
Participate in advance in other inclusive educations that has already been started in order to share the experience with our trainers	4
Intensive tutoring of Students with specific needs, due to the lack in ICT skills	4
Give more activities to perform and more interactions in the training sessions	1
Provide online video courses to students	4
Plan training sessions throughout the year with a diverse audience. Make this work part of the University's vision	1
Have more time to exercise with the material	2

Table 10. Question 9: What would be your suggestions for further improvement of the programme you participated?

4.2.2. Students with impairments

The following tables present the answers (items mentioned) of the students with impairments and the frequency of occurrence (number of times mentioned) of each answer for each of the two open-ended questions included in the questionnaire.

Items mentioned	Number of times
Advantage: Acquiring new knowledge and improved my skills	6
Advantage: I learned how to convert PDF, Word, and PowerPoint documents into accessible formats	4
Advantage: A well-designed accessibility program can enable individuals with specific needs to fully participate in society and enjoy the same opportunities as others. Helping students to better pursue their studies. Assisting teachers and students with disabilities	4
Advantage: using a screen reader for the first time, as I was not familiar with it before, the program content was engaging	1
Advantage: Possible to read documents using a screen reader	2
Advantage: Accessible documents, constructive topics, and learning how to create accessible documents	1
Advantage: Solidarity among university staff	1
Advantage: Motivating for students	1
Advantage: This program allows us to study remotely, which gives us greater autonomy	12
Advantage: This program gives us quick and easy access to courses and information (very clear and understandable courses)	12
Advantage: This program saves us time and effort, which reduces the pressure on us and the people who help us	12
Advantage: Be aware of the accessibility of some files	10
Advantage: We are happy to be considered and listened to	8
Advantage: We are happy to feel a little more autonomous	12
Advantage: We have had the opportunity to learn about the existence of small but very useful resources	12
Advantage: Interesting program for a first experience	5
Advantage: Gives an opportunity to work online	5
Advantage: Consolidation for those who master online Solution where you can access even if you cannot move	5
Advantage: Ease in self-training	4
Advantage: Facilitates learning and access to information	4
Advantage: No longer write	5
Drawbacks: Less physical activity and taking initiative	5
Drawbacks: Need for Connection, PC	1
Drawbacks: Less communication with people and perhaps less confidence	2

Drawbacks: Need to be eased with the computer features	8
Drawbacks: Need more trainings in sign language for professors to communicate with deaf students	3
Drawbacks: Need to master word and PowerPoint for blind students	5
Drawbacks: the professors need to know the best practice for blind students (the common usage of a computer)	6
Drawbacks: the software used for reading makes the computer a little heavy, especially when working on the Internet	5
Drawbacks: Lack of technical skills	2
Drawbacks: Training time	2

Table 11. Question 8: What are the advantages and the drawbacks of the programme you participated?

Items mentioned	Number of times
No suggestions	6
I think there should be more training on accessibility	7
More support	2
Preparing digital guides for students with disabilities	1
Exchanging ideas with universities of Europe, benefiting from their experience, and establishing contacts between students	1
More flexible scheduling	2
Online course content	1
Raising awareness	1
Video conferences	8
Opening a communication space between students and professors to ask questions and learn more about the courses	10
Installation of centers in each faculty for students with disabilities	12
We would like to have as many accessible courses as possible and more material and human resources	12
Train teachers to use the tools	5
Pursue digital teaching	4
Generalize the experience	5
Develop teachers' digital skills	5
Develop this idea further	5
Improve infrastructure and facilities for students with special needs	5

More equipment is required specially for blind students	3
They need recording session with clear voice. The room is very big, students are numerous and the session is with a lot of noise	6
The session is to be integrated in a platform with the subtitle option	6
They need equipment at their disposal at home not only in the accessibility unit	6
Need to access to a bank of references of these tools to make assistant understand their need and to check each time they need to know about a way to work with word, pdf, PowerPoint	8

Table 12. Question 9: What would be your suggestions for further improvement of the programme you participated?

4.2.3. Supervising team

The following tables present the answers of the members of the supervising team and the frequency of occurrence of each answer for each of the two open-ended questions included in the questionnaire.

Items mentioned	Number of times
Positively: the programme can be followed by students from different fields, with or without impairments	2
Innovative	4
Constructive for university community	4
A beginning and lesson for the long way of inclusion in our university	4
The program is very rich, interesting and necessary	4
We evaluate it positively	4
First accessible courses quite good	3
The courses were well received by the students. It would be more useful to maintain them for several programmes with more material resources.	4
First step for including students with impairments	3
As a first pilot course, the results are acceptable	2
Each institute should propose its pilot course	1
The course lacks images for students without impairments	6
The course lacks videos, especially for students with blindness or low vision	4

The course needs to tackle a content that interest our speciality preferably	3

Table 13. Question 1: I would like you to make a general comment on the programme (pilot courses). How do you evaluate it (positively / negatively)?

Items mentioned	Number of times
We can add external links and resources	1
The guidelines for the accessible education material (keep)	4
The proposed material (keep)	3
The organization of training (keep))	2
The courses need to be improved in terms of teaching. It is certainly different to present courses that are even accessible to students with impairments. The timing and duration of the programmes certainly need to be revised	4
Generalisation of accessible courses for all disciplines (math, physics, etc.)	2
For the success of this program, the university must pilot this project and encourage its institutes to get involved	1
We keep the online course the quizzes and the interaction	2
Need to have a general evaluation	2
Less topics are lighter - ten topics are very consistent	2

Table 14. Question 2: What would you keep and what would you change about it?

4.3. Questionnaire (close-ended questions)

4.3.1. Teaching staff

The results of the analysis of the answers given by the members of the teaching staff for each of the seven close-ended questions included in the questionnaire, appear on Table 15. The University of Mohammed V in Rabat has been excluded from this part of the analysis because of not delivering the respective data.

	Mean	SD	Min	Max
How accessible was the programme (pilot courses)?	8.21	1.311	6	10

How difficult was it for you to participate in the programme?	4.86	3.302	1	10
Would you recommend others to participate in similar programmes as teaching staff?	9.50	0.760	8	10
Do you think that the programme met the purpose for which it was designed successfully?	7.71	2.301	2	10
How useful would you consider similar programmes to be for your university?	6.93	3.562	1	10
How tedious was the programme?	5.86	2.685	0	10
How satisfied are you with your participation in the programme?	6.64	3.433	1	10

Table 15. Mean, standard deviation, minimum and maximum for each of the seven close-ended questions included in the questionnaire.

4.3.2. Students with impairments

The results of the analysis of the answers given by the students with impairments for each of the seven close-ended questions included in the questionnaire, appear on Table 16. The University of Mohammed V in Rabat has been excluded from this part of the analysis because of not delivering the respective data.

	Mean	SD	Min	Max
How accessible was the programme (pilot courses)?	8.55	1.429	4	10
How difficult was it for you to participate in the programme?	3.97	3.065	1	10
Would you recommend others to participate in similar programmes as teaching staff?	9.62	0.728	7	10
Do you think that the programme met the purpose for which it was designed successfully?	8.83	1.104	6	10

How useful would you consider similar programmes to be for your university?	9.41	0.682	8	10
How tedious was the programme?	3.34	2.176	1	9
How satisfied are you with your participation in the programme?	8.97	0.906	7	10

Table 16. Mean, standard deviation, minimum and maximum for each of the seven close-ended questions included in the questionnaire.

	Impairment	N	Mean	SD
How accessible was the programme (pilot courses)?	hearing	2	10.00	0.000
	mobility	6	8.83	0.983
	visual	21	8.33	1.528
How difficult was it for you to participate in the programme?	hearing	2	5.00	5.657
	mobility	6	2.83	2.787
	visual	21	4.19	3.010
Would you recommend others to participate in similar programmes as teaching staff?	hearing	2	9.50	0.707
	mobility	6	9.83	0.408
	visual	21	9.57	0.811
Do you think that the programme met the purpose for which it was designed successfully?	hearing	2	9.50	0.707
	mobility	6	9.33	0.816
	visual	21	8.62	1.161
How useful would you consider similar programmes to be for your university?	hearing	2	9.50	0.707
	mobility	6	9.67	0.516
	visual	21	9.33	0.730
How tedious was the programme?	hearing	2	2.00	0.000
	mobility	6	4.00	2.828
	visual	21	3.29	2.077
How satisfied are you with your participation in the programme?	hearing	2	9.50	0.707
	mobility	6	9.17	0.753
	visual	21	8.86	0.964

Table 17. Mean and standard deviation for each of the seven close-ended questions included in the questionnaire in relation to the type of impairment.

	Impairment	N	Mean	SD
How accessible was the programme (pilot courses)?	US	5	6.80	2.168
	UMMTO	12	8.42	0.900
	USTO	12	9.42	0.669
How difficult was it for you to participate in the programme?	US	5	8.80	0.837
	UMMTO	12	3.17	0.937
	USTO	12	2.75	3.137
Would you recommend others to participate in similar programmes as teaching staff?	US	5	9.80	0.447
	UMMTO	12	9.58	0.669
	USTO	12	9.58	0.900
Do you think that the programme met the purpose for which it was designed successfully?	US	5	7.60	1.140
	UMMTO	12	8.83	0.835
	USTO	12	9.33	0.985
How useful would you consider similar programmes to be for your university?	US	5	9.00	1.000
	UMMTO	12	9.42	0.669
	USTO	12	9.58	0.515
How tedious was the programme?	US	5	6.40	0.894
	UMMTO	12	2.58	0.793
	USTO	12	2.83	2.443
How satisfied are you with your participation in the programme?	US	5	9.00	0.707
	UMMTO	12	8.75	0.965
	USTO	12	9.17	0.937

Table 18. Mean and standard deviation for each of the seven close-ended questions included in the questionnaire in relation to the university the participants attend.

5. Conclusions

The results of the pilot courses are overall positive. The participants of the programme were satisfied with it and felt that the programme met the purpose it was designed for and was useful. The specific conclusions about each group of participants based on the assessment results are presented below.

Accessibility advisors did not mention encountering any major problems during the training. More than half of the advisors thought the training was good, but could incorporate some figures or images and/or that the quizzes could be enhanced. The advisors did not unanimously agree on the specific results of the training, but they mentioned many. Half of the advisors believed that the training was a good initiative and that, through training, participants successfully gained more skills

and knowledge as well as comprehension on distance education for students with impairments. Concerning their opinions on the experience of the trainees, advisors thought that trainees had an extremely positive disposition towards participating in the training courses. However, a few mentioned that the implementation during the exam period resulted in time management issues. As for the satisfaction of the trainees, the participating accessibility advisors generally believe trainees were satisfied and only two mention that trainees requested more training.

As for the trainers-representatives, the majority of them mentioned facing no difficulties, while a considerable number mentioned the lack of computer knowledge students with disabilities had and the inquiries they faced regarding the duration of the training as problems they encountered. Regarding the results of the training for the participants, trainers-representatives mentioned various benefits and mostly that participants gained knowledge on the inclusive concept, the use of assistive technology as well as the functions of each software and its suitability to each type of impairment and obtained new methods for interacting with students with disabilities. All trainers-representatives thought that the trainees had a positive disposition towards training with the majority of them mentioning that trainees were very motivated to learn more. Trainers-representatives unanimously thought that the trainees were satisfied with the training with the majority of them underlining that trainees were very satisfied and others mentioning trainees were eager to do more.

Concerning the teaching staff, when asked about the advantages and disadvantages of the programme, they mentioned more advantages by far. The most commonly mentioned advantages were the development of new skills, the self-satisfaction felt when helping students, the integration of students with disabilities in distance education and the increase of students' interest. When asked to give suggestions for the improvement of the programme, the teaching staff made various suggestions, the most common of which were to provide more training, especially on the use of computers, to allow for more practice and to provide material help for students with disabilities who do not have access to a computer or the internet. Overall, the training staff would absolutely recommend similar programmes to others and found the programme very accessible and neither very difficult nor very tedious.

Regarding the students, they mentioned that the programme had a lot of advantages but quite a few disadvantages as well. However, a bigger consensus is observed for the advantages, which include the autonomy, the ease of access, the time and effort management and the knowledge gained regarding useful resources. When asked to give suggestions for the improvement of the programme, students with disabilities had various ideas and mainly suggested the installation of centers in each faculty for students with disabilities, the need for more accessible courses, material and human resources and the need for a communication space between students and professors in order to be able to ask questions and learn more about the courses. The students with disabilities found the programme very accessible and believed it met the purpose it was designed for successfully. They think similar programmes would be extremely useful and they would absolutely recommend similar programmes to others.

It is worth mentioning that students with hearing impairments found the programme more accessible than the other students and were more satisfied with their participation, even though they found the participation more difficult than students with visual or mobility impairments. Nevertheless, students with mobility and visual impairments found the programme more tedious. Furthermore, students of the University of Sousse found the programme less accessible and more difficult than the other participants. However, they were as satisfied with their participation in the programme as the students of the Mouloud Mammeri University of Tizi-Ouzou and the students of the University of Sciences and Technology of Oran Mohamed Boudiaf.

Lastly, the supervising team evaluated the programme positively, especially as a first step towards the inclusion of students with disabilities. However, almost half of the team thought that the programme lacked images for students without impairments. The supervising team would keep various aspects of the programme such as the organization, the material and the guidelines intact, but thought the teaching aspect of the courses could be improved along with its duration and timing.

Appendix I: Attachments

Questionnaire – Teaching staff

1. How accessible was the programme (pilot courses)? (To what extend 1-10)
2. How difficult was it for you to participate in the programme? (To what extend 1-10)
3. Would you recommend others to participate in similar programmes as teaching staff? (To what extend 1-10)
4. Do you think that the programme met the purpose for which it was designed successfully? (To what extend 1-10)
5. How useful would you consider similar programmes to be for your university? (To what extent 1-10)
6. How tedious was the programme? (To what extent from 1 to 10)
7. How satisfied are you with your participation in the programme? (To what extent from 1 to 10)
8. What are the advantages and the drawbacks of the programme you participated? (open-ended question)
9. What would be your suggestions for further improvement of the programme you participated? (open-ended question)

Questionnaire – Students with impairments

1. How accessible was the programme (pilot courses)? (To what extend 1-10)
2. How difficult was it for you to participate in the programme? (To what extend 1-10)
3. Would you recommend others to participate in similar programmes as teaching staff? (To what extend 1-10)
4. Do you think that the programme met the purpose for which it was designed successfully? (To what extend 1-10)
5. How useful would you consider similar programmes to be for your university? (To what extent 1-10)
6. How tedious was the programme? (To what extent from 1 to 10)
7. How satisfied are you with your participation in the programme? (To what extent from 1 to 10)
8. What are the advantages and the drawbacks of the programme you participated? (open-ended question)
9. What would be your suggestions for further improvement of the programme you participated? (open-ended question)

Questionnaire – Supervising team

1. I would like you to make a general comment on the programme (pilot courses). How do you evaluate it (positively/ negatively)? (open-ended question)
2. What would you keep and what would you change about it? (open-ended question)