

Language and Communication in the Digital Era: Challenges for Researchers,  
Teachers and Practitioners

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**Training Intercultural and Technological Mediation in the Digital Era**

The project of using eye tracking in research on training intercultural and interlinguistic mediators will be realised through the synergy of different partners belonging both to academic and professional world ensuring that the final profile meets multiple market needs and the curriculum will be designed to train future experts in an efficient and of high quality learning. Besides affecting directly higher education as well as trainees interested in Mediation and technology market will be a kind of training which will have a strong long-term impact on a wide spectrum of potential beneficiaries of the mediation sessions produced by the new professionals. We have to include all the target public like the blind and visually impaired, the deaf and the hard of hearing (HOH), the migrants, the refugees and more in general a wide array of persons with disabilities, with age related disabilities and with specific needs.

Based on the results attained previously, our training based on the research with Eye tracking marks an important step forward in this field. The aim is to create free-access for all based on research in this particular domain and to invent didactic materials with new applications to be

able to offer a modular service for the for-mentioned audience. In this training, we aim a professional profile figured with a key role in the field of media accessibility and information.

Using Eye-tracking in research and training on oral interlinguistic mediation as a tool for communication will foster the research on information and communication. Eye tracking performance offers the complete range of gaze control for sophisticated computer access to use easily communication modes. A study of the eye movement would signify that the mediator who is charged of producing an intercultural mediation as for example a verbal description of a film or a piece of theatre for the blind and visually impaired community would choose to audio-describe the relevant information. These descriptions are considered as a form of digital mediation as to use the visual features of a work of art or an audio-visual product in an objective way, the eye movement will help in choosing the most important scenes to be described.

The European Commission demands for more mobility and asks for more and more specialized and focused training<sup>1</sup> in this field. Moreover EU aims at harmonizing training curriculums among its member states, in an attempt to facilitate the mobility of graduate students inside Europe and to access information to all its citizens.<sup>2</sup>

Due to the abovementioned we notice that there is a problem related to digital inter-linguistic mediation in the field of Information and Communication. The absence of a defined content and a specific methodology is in the heart of this issue. A response could be extracted from the EU recommendations and we can propose a solution by announcing the hypothesis of our research as follows: The digital inter-linguistic mediation suffers from a breach in the field of training and in the definition of the content of the latter. This issue might be resolved by a focused training in this field and harmonizing the contents of its “training amongst EU members’ states”. This is based on the need of a model for training inter-linguistic mediators in the European society, with multidimensional skills in technology, information and communication.

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<sup>1</sup> Common European Framework of reference for languages learning, teaching, assessment (2001)

<sup>2</sup> The European Commission presented in various documents in between 2003 and 2008 its approach to developing multilingualism.

For example audio describing documentaries (political, environmental, economical, ethical etc.) on the screen for Media (audio to written), analysed from an intercultural point of view, will help us in defining operational objectives for this strategy. In addition to propose a project based on the above mentioned taking into consideration the involving difficulties in adaptation and choosing through different cultures and the text condensation, the relevant information packaging with all the constraints to fit the comprehension capabilities of the Blind or Deaf audience under diverse conditions.

McLuhan's *The Gutenberg Galaxy* (1960) clarified a reality that it was a pioneering study in the fields of oral cultures and media ecology. McLuhan reveals how communication technology affects the cognitive. He declares:

*If a new technology extends one or more of our senses outside us into the social world, then new ratios among all of our senses will occur in that particular culture."*

In the early 1960's McLuhan mentioned that communication would soon be brought to an end by what he called "electronic interdependence". When electronic media replaces visual culture with oral culture. In this new age, humankind will move from individualism to a collective identity, with a "tribal base". McLuhan's called this new social organization "the global village"<sup>3</sup>.

Digital interlinguistic mediation plays the same role as described by McLuhan

*"It is comparable to what happens when a new note is added to a melody. And when the sense ratios alter in any culture then what had appeared lucid before may suddenly become opaque, and what had been vague or opaque will become translucent".*

My experience at the Multimedia Centre CERM<sup>4</sup> and the CORHIS<sup>5</sup> Laboratory of Research has given me useful hints for elaborating a training methodology in digital inter-linguistic mediation for students of 3<sup>rd</sup> Bachelor. 1<sup>st</sup> and 2<sup>nd</sup>. Master, moreover for those who aim to become, specialized in digital inter-linguistic mediation in communication and information<sup>6</sup>

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<sup>3</sup> McLuhan analyses the effects of mass media on European culture and human consciousness. Global village refers to the idea that mass communication allows a village-like mindset to apply to the entire world.

<sup>4</sup> Centre d'études et de Recherches Mutimédia, UMonS at Mons, Belgium.

<sup>5</sup> CORHIS, Communication, Ressources humaines et intervention sociale, University of Paul Valéry at Montpellier, France.

<sup>6</sup> Élément 02, 2009: 20

by preparing a Master's degree of specialization (6<sup>th</sup>.Year). It consists of a cooperative activity with graded and sequential procedures for supervision of the theory and an internship at professional Media Companies such as French TV (A2), Belgian TV (RTBF), Flemish TV (VRT), French Media Enterprises like Dubbing Brothers, and Film Festivals for each trainee. After studying different existing training theories, the Synergy helped in creating a Pedagogical and Methodological Curriculum, PMC proposed as an answer to the above-mentioned observation.

This methodology has been improved year after year and will be in the future due to Digital evolution. Each year we review the Bibliographical references on the subject, the digital programs for upgrading or for choosing new tools. Using the Eye tracking in our research laboratory is the cornerstone of the digital inter-linguistic environment. These courses are presented to the students to form a foundation for other areas of the know-how.

Last month we organised a very interesting Scientific Seminar on the question of Research by using the tool of Eye Tracking with the help of TOBII PRO enterprise, we had theory on the question and a practical training in the afternoon in the aim of using this technology in research. Tobii Pro and Ergoneers QTM integrated eye trackers help in collecting and visualizing eye tracker data in QTM. The eye tracker data is visualized as a gaze vector with a manoeuvrable vector trace. If used together with a Qualisys video camera 3D overlay is also possible. Naturally, eye tracker data can be plotted just like any other data type in QTM<sup>7</sup>. Besides visualization, gaze vector data can be exported to TSV, MATLAB or be gathered externally through the real-time streaming protocol. Tobii Pro also has hardware synchronisation, which means that the integration starts both glasses and cameras at the same time. Their services designed to deepen the understanding of human behaviour. Through eye tracking insights, Trainees are able to drive change and further their research.<sup>8</sup>

In addition to the theory on the subject, practical exercises in this special field are offered to students. Moreover an introduction to these activities designed for students of 3<sup>rd</sup>. Bachelor, 1<sup>st</sup>. & 2<sup>nd</sup>. Masters who have chosen only 2 hours course per week as a selective

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<sup>7</sup> (QTM) Quantum Turing machine, also universal quantum computer.

<sup>8</sup> The Seminar on EYE TRACKING at the Faculty of Polytechnics in UMONS Belgium  
<https://youtu.be/Lt2FjeCyAs8>

course. On the other hand, for students who have chosen the SM degree in digital inter-linguistic mediation studies as a specialization, they will be involved in theory of research on Eye tracking in this field and practical exercises on professional and technological disciplines such as Respeaking and screen-titling for Deaf and HOH, Dubbing, Audio description for Blinds and visually impaired, and Screen-titling as well as professional training in Media and information companies.

Inter-cultural audio description and adapting an audio description<sup>9</sup> for a Source documentary to a coherent Target audio-described document, such as audio-describing a chosen short sequence with some constraints will show clearly the problems of time restriction in audio-describing in the same language or from one culture to another. Students should be able to analyse and encounter the cultural constraints and to control the adds by the number of frames. Through these exercises starting from the first practical course, inter-linguistic Mediators are given the skills to function independently. They build their concentration through repetition of the work until they reach a state of perfection and satisfaction, which develops their self-confidence in the matter. Measuring by Eye tracking a specific group will help them to confirm their choice of the relevant information to be described.

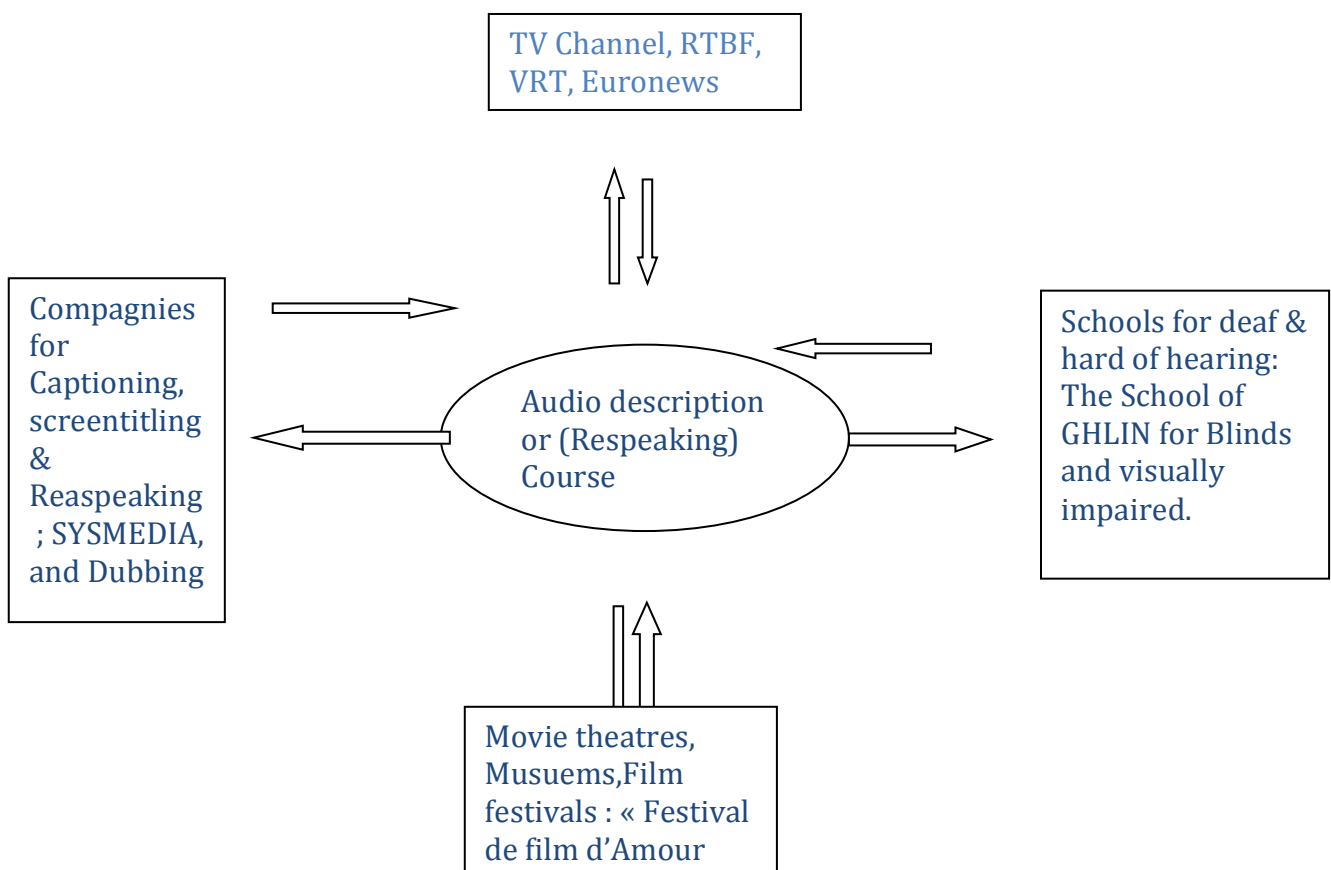


<https://www.telerama.fr/television/la-tele-parle-aux-aveugles,78943.php>

- <sup>9</sup> Sophie Bourdais, With audiodescription, TV speaks to Blinds, Télérama, Publié le 15/03/2012. Mis à jour le 01/02/2018 à 09h01. <https://www.telerama.fr/television/la-tele-parle-aux-aveugles,78943.php>

The digital inter-linguistic Mediator is given the facilities to make clear concepts and classifications for all the information she/or he has gathered thus far through his/her sensory perceptions. Through this rediscovery, the difficulties are materialized abstractions of the documentary/environment for simplification or generalizations. The inter-linguistic Mediator can now make refinements and make the information retrievable with targeted language and culture of the blinds. Besides these programs allow the trainee opportunities to develop accurate and discriminatory recall of his/her impressions. Through the exploration of these materials he/she will be able to refine his/her perceptions in order to perceive finer and finer distinctions. Later Norms and constraints in digital inter-linguistic and intercultural communication will be understood due to their utility. The training in a professional environment like School for blinds, TV channel or film festival will confirm the teaching environment in the academic Institution. This Strategy based also on the implementation of this *work Map in fig. 1* should permit to guarantee to the academic Institution the quality of graduated students' training and to obtain their first employment rapidly after their graduation.

**Fig. 1: Interaction related to inter-linguistic or intra-linguistic audio-description and Respeaking disciplines with Professional Companies.**



### ***Pedagogical and Methodological Curriculum (PMC) for training digital Inter-linguistic Mediation:***

As proposed in the typology of *Intellectual procedures* of L. D'hainaut (1977:105) mentioned in Safar (1992) the Curriculum Developer should be interdisciplinary to be able to apply the goals decided by the Decision makers. In our Project we try to apply the intentions of the European Institutions, which demand accessibility to all European citizens to information and for more mobility of the European young students by offering different Programs. The EU asks for more and more specialized and focused training in an Action plan to promote teaching languages and diversity and aims at harmonizing training curriculums among its member states, in an attempt to facilitate the mobility of graduate students inside Europe. Pedagogical and Methodological Curriculum (PMC) for teaching digital inter-linguistic mediation includes a Synergy between the educational system and the professional companies and is based on a map established by discipline surrounding the Training faculties by all the professional companies which will take part in this Project. During the elaboration of these goals we had to focus on an important issue, which is the coherence due to the fundamental options in education in our region keeping in mind the adopted System of Values.

The goals classified in each discipline were presented to more than four professors per discipline to obtain their commentaries to be able to adjust when necessary. Trainers who will be using the operational objectives of this teaching and training, therefore will create their own special situations of learning which might be different from those that we are proposing, but in the aim of obtaining the same goal. To render this Pedagogical & Methodological Curriculum (PMC fig.3) operational, it is important to define the academic and professional Profile targeted by the students at the end of their graduation. It is of a concern to establish a list of skills and know-how for the trainee to master by the end of his or her training. The Profile has been assessed and adjusted due to market needs year after year, because the Multimedia market (fig.3) is constantly changing and influencing our teaching.

We do not want to impose our vision, but to listen to the EU general intentions of focusing on the issue of multilingualism and the wish to permit the access to all European

citizens (viewers with sensory impairment, Deaf, blind, children, adults and elders) to information boosted our project which based this training on the respect of differences in a targeted audience rich in its diversity. This work in harmony and coordination in matter of student's jobs, training and assessment with the Royal Theatre of Mons, the Conservatoire, the professional Companies of screen-titling, dubbing, respeaking and audio description, the school for blinds etc. cfr. Fig 2. Confirm our vision. Our objective is to receive a feedback from Researchers, Trainers, Trainees or students in digital inter-linguistic mediation in information and communication to adjust our model. Our University has accepted the application of this curriculum and it was adjusted year after year on the ground on different generations of trainees. ERASMUS program permitted us to welcome students from different European countries. 80% of our students and Erasmus students responded to the Profile demanded at the end of their studies.

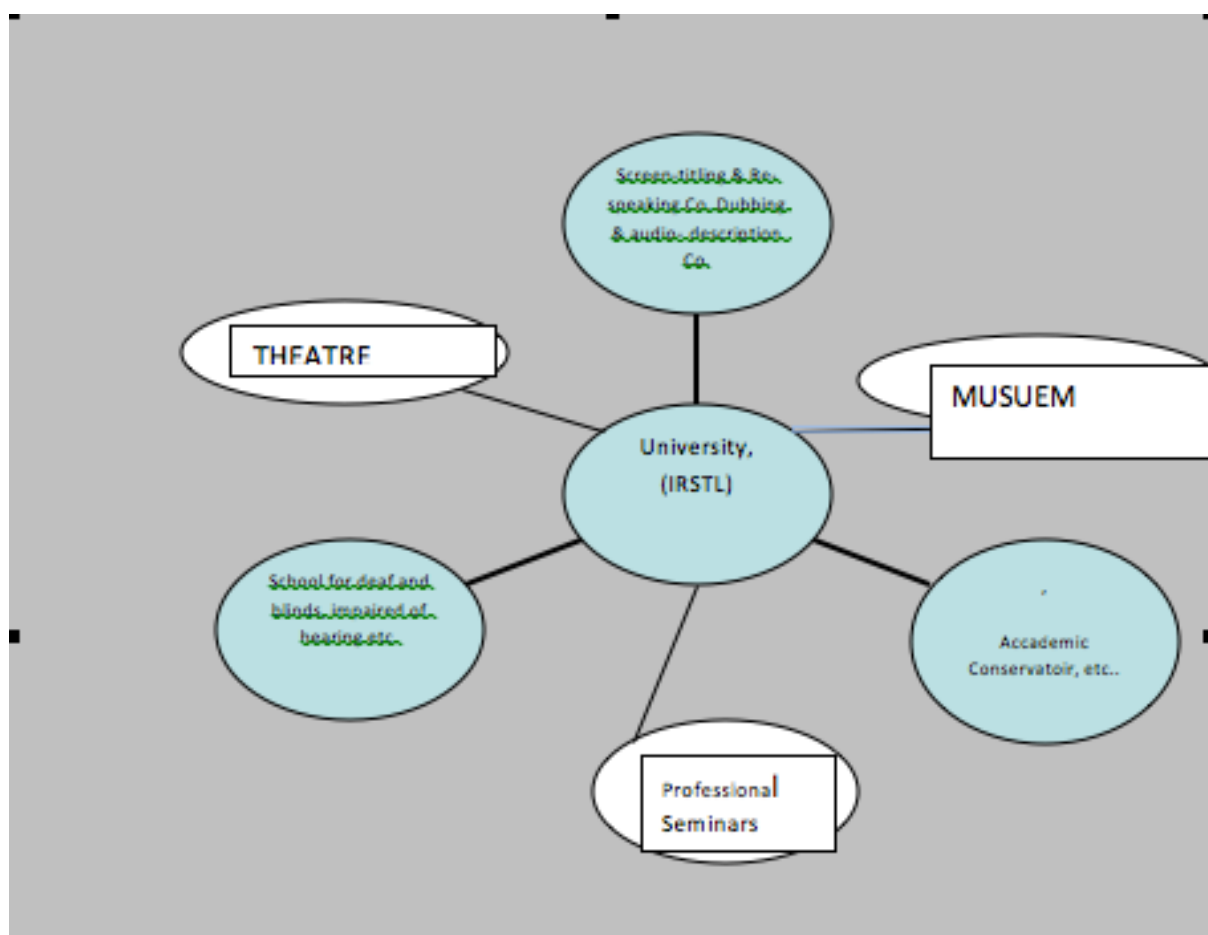
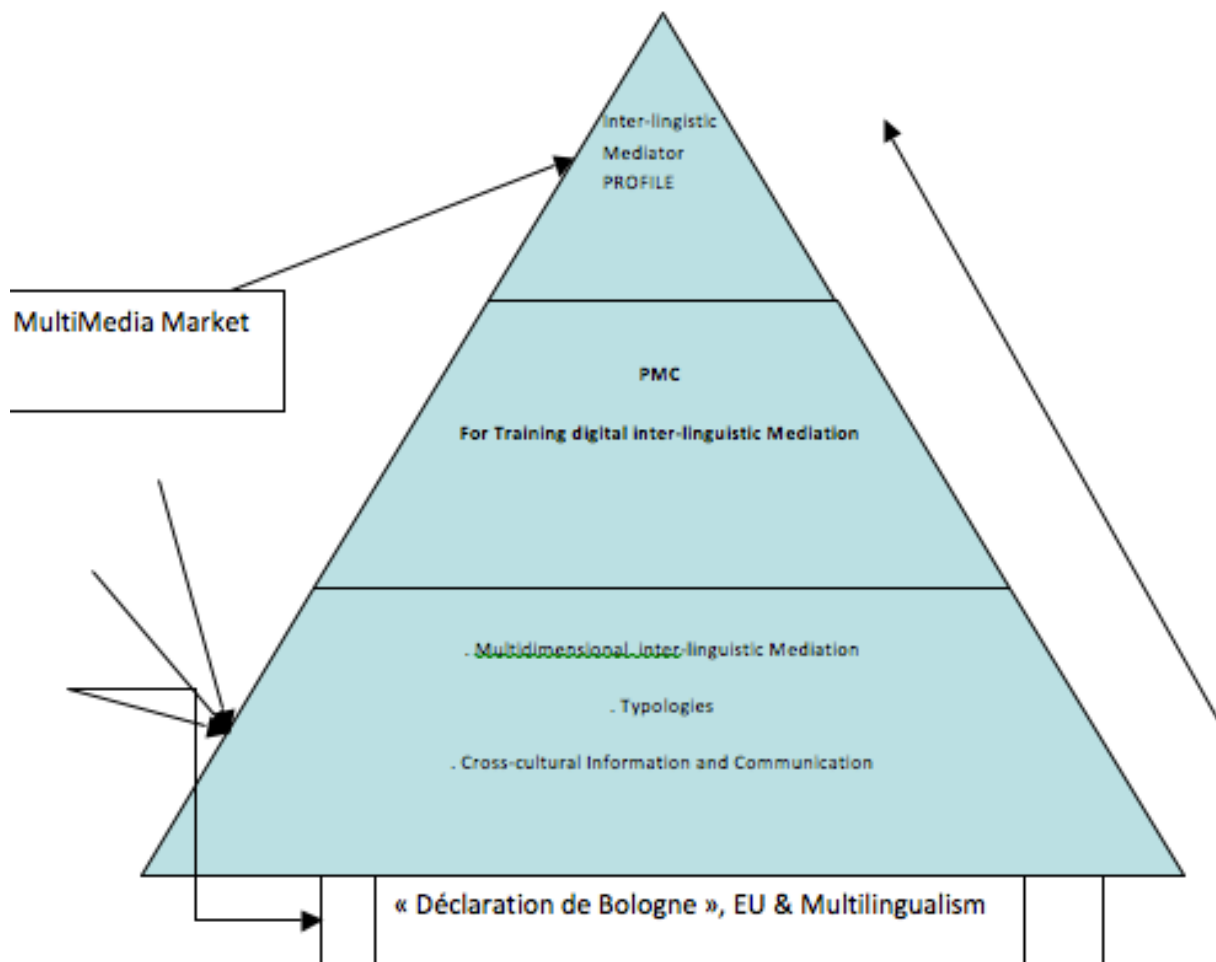


Fig.2





**Fig. 3 Pedagogical and methodological Curriculum PMC**

Historically, we used to live in small, interconnected communities with very specific needs. Nowadays, we have a very different reality. Things have changed radically, with the advent Internet and related technologies into the Universe, and the Universe has become a village where we need mediators in every field. As trainers, we have to train our minds to see an open Universe of intercultural communication accessible to all communities and to all cultures. We have to change the foundation and to unlock our teaching, to offer digital training as a catalyst

to awaken and bring out creativity in our trainees. In start we must develop a new understanding of the role of mediator as a facilitator of communication using different technological tools.

The implementation of the proposed framework in real life situations has provided me with the opportunity to learn from the practice of daily observation and teaching. I found that this kind of teaching needed a continual training for trainers because the infrastructure of this precise educational sector faces many challenges and needs comprehensive development. The increase in quantities of new software programs and data on the subject has been used to manage complex educational situations and problems.

I try to determine how *the pedagogical Setup for training inter-linguistic mediators* will be used to facilitate the trainer's work and to contribute positively in being a vehicle of change through providing a holistic view of how the adoption of this framework within the training could help.

Measuring the impact of technology on the inter-linguistic trainees' productivity is a challenge in its own benefits to show that the use of Eye tracking will determine the methodological problem in evaluating any project by choosing the relative indicators for the measurement of any sequence. Eye tracking sensor is tolerant to head movements, sunlight, vision impairments and copes with most vision aids. State of the art technology ensures that the widest range of users can access the computer with the highest accuracy.

Every study requires examination of a variety of qualitative and quantitative measures on individuals or groups. This *pedagogical Setup* has been applied to a number of generations of audio-visual mediators. Measuring with Eye tracking enable physically challenged researchers to maintain communication with their environment and improve the quality of a research.

A methodology measured for many years its effectiveness and efficiency and has been proved by the productivity of those who were trained by this method. This fact is widely described in the Students' reports after their training and their thesis's. The literature review on the existence of an educational methodology for inter-linguistic trainers shows how recent this phenomenon is more specifically as Gambier (2008) describes in MuTra Conference on Subtitling at Titlebild in Berlin and J. Diaz (2007) in MuTra Conference at Saarland University in Saarbrücken, Saarland University on "Translation Concepts and Multidimensional Translation" who argue, that "traditional translation, integrates much data since the 6<sup>th</sup> century from multiple resources to provide the information", those facts are crucial information and we have to enrich our knowledge by keeping all this data for new

generations. Mediation communities & researchers have investigated in macro-analysis further main points by looking at it from different perspectives. The inter-disciplinarity of our subject presents the complexity of the issue, for bringing innovations in the methodology of education in this field is necessary to focus on the question of which common aspects or differences this research might bring.