



Universal Design for Learning in Higher Education: Beliefs among the Students of Two Foreign Languages Departments

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Abstract

In the last few years scientific literature has been investigating the relationship between beliefs and actions in the educational field. Beliefs can be influenced by several elements such as personal experiences, learning experiences or practical experiences as well as by someone else's beliefs. Beliefs are defined as learning variable that influence indirectly the students and faculties. By investigating beliefs among students and faculties it becomes possible to develop an inclusive teaching and learning method. The following paper will present the first results of a student's questionnaire that I proposed based on the guidelines of the Universal Design for Learning. The questionnaire will be administrated in two foreign languages departments in Italy and Germany. The Universal Design for Learning framework is based on teaching-learning research and the idea that three brain networks are involved mostly in the learning process. Indeed, the three brain networks differ in each learner. The purpose of the UDL principles is to consider the three networks supporting learners' diversity through targeted interventions and learning opportunities. Therefore, a heterogeneous group of students can take advantage of flexible teaching methods and curricula. The questionnaire tried to analyze the student's beliefs and the related faculties' actions. This paper aims to investigate beliefs and faculties actions on inclusive practices based on Universal design for Learning principles among foreign language students.

Keywords: *Beliefs in education, Universal Design for Learning, Inclusion*

1. Introduction

Words such as diversity, heterogeneous classes, inclusion are becoming common in the last years approaching the educational field. However, the percentage of students with disabilities at university is still low and most of them have to face several types of problems every day. Moreover, there are still some researchers and faculties that consider the university as an elitist world where simplification or measurements of inclusion means facilitation. Beliefs indeed seem to play an important role in educational actions. In the first part of this article the relationship between beliefs and actions in an educational field will be summarized through a theoretical point of view. In the second part the universal Design for Learning model will be presented. Finally, In the last part the student's questionnaire will be introduced and the first results among students of two foreign languages departments in Italy and Germany will be showed.

1.2 Beliefs and actions

Beliefs can be influenced by several elements such as personal experiences, learning experiences or practical experiences as well as by someone else's beliefs. Teachers' positive or negative beliefs can impact their pedagogical decisions and they can be predictors of their behaviours. However, beliefs cannot always be translated into real classroom activities because of external factors (time constraints, environment etc.) [2].

In the last decade beliefs have gained a place in the educational field. They have been considered as a teaching variable. According to Jürgen Baumert und Mareike Kunter [1] the Model of professional teacher's competences comprises three aspects: Knowledge (subject knowledge, subject didactic knowledge, general pedagogical-psychological knowledge, organisational knowledge and counselling knowledge.), value attitudes and beliefs, and finally person-related characteristics (attitudes,



motivation, self-regulation.). Indeed, there is evidence that beliefs play a role in teachers' professional competences and decisions. Helenrose Fives and Michelle Buehl [3] have identified three different functions of beliefs related to teachers' actions:

- Filter for interpretation: beliefs are a filter that can influence the interpretation of situations. They can reshape but also distort information processing. Beliefs as a filter are often associated with the concepts of stability and permanence. They have different degrees of stability. The more central the belief is in the belief system, the harder it is to change.
- Frames for defining problems and tasks: each teacher framed and classified tasks differently according to their experiences and beliefs.
- Action-guiding: once a problem is defined, beliefs guide teachers' planning and actions. Motivational constructs such as commitment, self-efficacy beliefs, persistence influence ultimately teaching quality. Finally motivational constructs are, for example, the expected consequences of an action (outcome expectancy) and the subjective value of a task (task value).

As conclusion beliefs are relevant to the quality of teaching because they affect a teacher's goals and action plans choices as well as her perception and interpretation of situations in the classroom.

1.3 Universal design for Learning as an answer for an inclusive higher education

The Universal Design for Learning framework is related to a movement among researchers: the neurodiversity movement. It was developed in the late 1990s and has dealt with autism, learning disabilities, emotional behavioral disorders and attention deficit hyperactivity disorder. The aim of the movement was to see diversity, such as cultural diversity or biodiversity, as richness and not as a disease. The diversity was considered as individual differences at the level of the brain and cognitive organization. It does not ignore the disorder but looks at the diversity from a different perspective.

Through the principle of neurodiversity, the educator tries to identify the strengths of each learner in order to develop more effective teaching strategies. Once the strengths of students are identified, the educator should try to build a learning environment, where teachers minimise the weaknesses and maximize the strengths of each learner.

Universal Design for Learning (UDL) is based on the concept of Universal Design, that origins in the field of architecture with the Architect Ronald Mace - founder of the Center for Universal Design at North Carolina State University. The seven principles of Universal Design were embodied in the Universal Design for Learning model by Anne Meyer and David Rose [4]. They founded in 1984 the Center for Applied Special Technology (CAST), an educational research and development organization. The model is based on the concept of "NO one-size-fits all": the average student does not exist. Indeed, there are different types of students. The UDL enables the implementation of the principle of personalization in curricula design and tends to respect different individualities and to avoid labelling students. The other basic principles of UDL are therefore variability and of learning processes and flexibility in teaching and learning.

UDL guidelines are constructed on the results of teaching-learning research and on the neuroscience field. According to the scientists three are the brain networks relevant for learning and they differ in each learner:

- The recognition networks acquire and recognize information. They make information available to the other networks. They are situated in the back of the brain. We activate them unconsciously every time we are ready to take an information from our environment.
- The strategic networks process and provide information. The second networks are located in the front part of the brain. They allow us to face complex problems. While the recognition networks gain the external information, the strategic networks are responsible for how we select, order and spread information in our environment.
- The affective networks are involved in the emotional processing of information. The affective networks are largely located in the center of the brain. They bring together the information processed by the other two networks, and set priorities based on interests, memories and emotions. They can act as a restrain when a certain type of content evokes negative memories, or when we are afraid of a certain situation or need, such as public speaking or an oral presentation. The affective networks, when positively stimulated, can act instead as a motivator.

Based on the three networks, Anne Mayer and David Rose have developed 3 basic principles, as the table 1 shows. These principles are very simple and common, so everyone could modify them according to students' needs and educational situations.

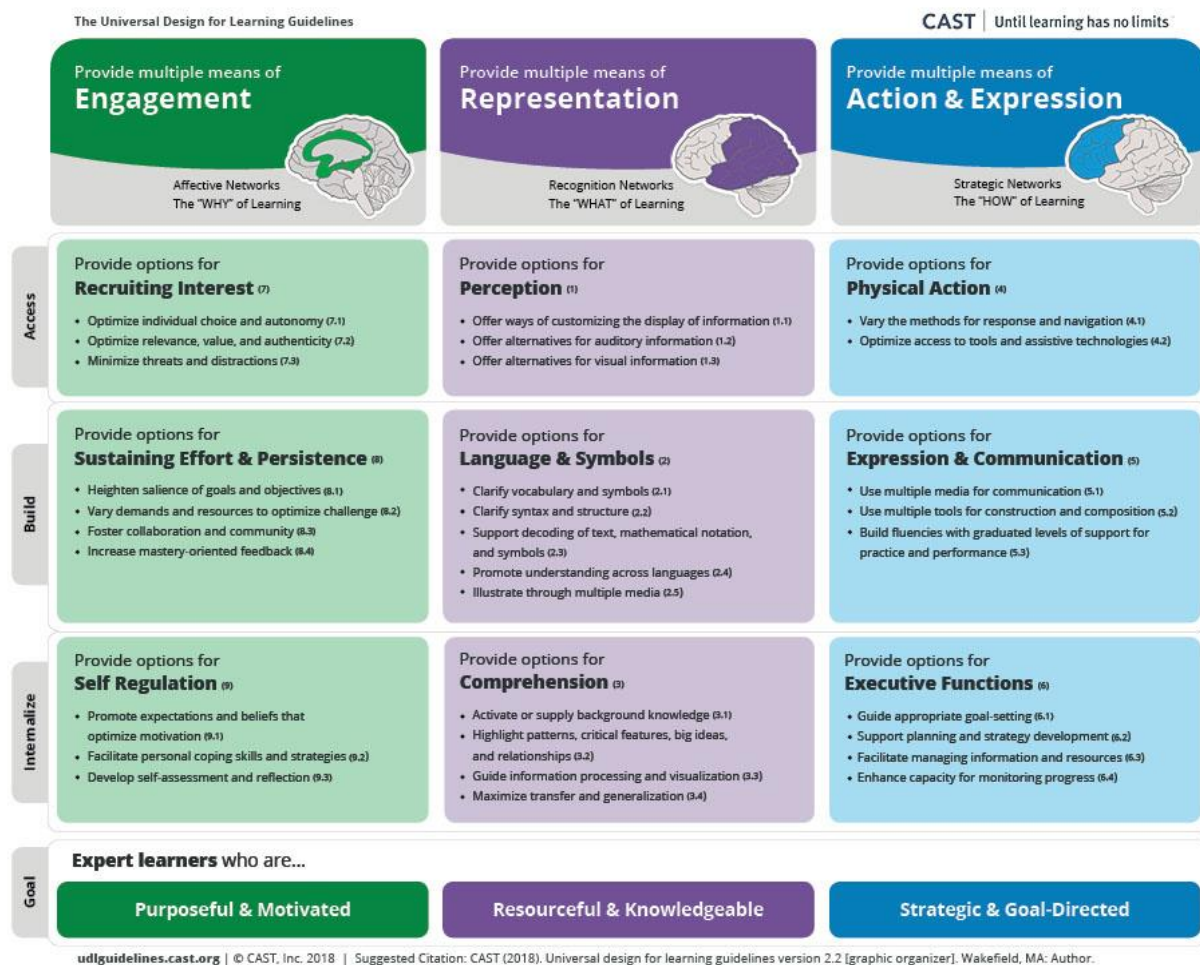


Table 1: Udl Guidelines

1.4 The students' questionnaire

The students' questionnaire includes 64 variables and two Likert scales (one for beliefs and one for faculties actions). 32 variables belong to the belief scale and 32 variables to the action scale. Each scale has 4 sub-groupings based on the Universal Design Guideline:

1. adjustments for students with documented disabilities (8 items)
2. inclusive learning materials for students with and without disabilities (6 items)
3. inclusive courses design and assessment for students with and without disabilities (13 items)
4. inclusive use of language for students with and without disabilities (5 items)

For the analyses, data were collected from 202 students from two universities: 99 students from the Pädagogische Hochschule Karlsruhe and 103 students from the Università degli Studi G. D' Annunzio Pescara (Italy). Every students attend a language course and study either German, Italian, English or French as foreign languages. The questionnaire was developed with an online survey tool-LimeSurvey- and sent to the students. The survey was validated with a pre-test phase. As the data were collected, an alpha test with SPSS was run to check the internal validity. The overall internal consistency for the whole questionnaire (64 items) is 0.90. The questionnaire has a good internal consistency. I conducted a T-test to compare mean score on the beliefs and action subscales across the Italian and German sample. The results of the mean score comparisons across all beliefs and actions subscales between the Italian and German students are presented in Table 2 and 3.

1.5 Results

With regard to Beliefs (Table 2) the two groups were not statistically different across the first three subscales. They are slightly statistically different in the last subscale, where the responses of the



Italian students are higher compared to the use of the first language (Italian in Italy, German in Germany) during foreign languages lessons. Both groups evaluate positively the use of inclusive practices in foreign language lessons.

T-TEST BELIEFS SCALE AMONG UDA (ITALY) AND PHKA (GERMANY) STUDENTS				
SUB-GROUPS	UNIVERSITY	N	Mean	Std.-deviation
1 modification for students with documented disabilities	Università degli Studi G. D Annunzio (UDA)	103	4,14	,52
	Pädagogische Hochschule Karlsruhe (PHKA)	99	4,01	,61
2. inclusive learning materials for students with and without disabilities	Università degli Studi G. D Annunzio (UDA)	103	4,12	,64
	Pädagogische Hochschule Karlsruhe (PHKA)	99	4,15	,50
3. courses design and assessment for students with and without disabilities	Università degli Studi G. D Annunzio (UDA)	103	4,15	,37
	Pädagogische Hochschule Karlsruhe (PHKA)	99	4,11	,50
4. inclusive use of first language for students with and without disabilities	Università degli Studi G. D Annunzio (UDA)	103	3,77	,77
	Pädagogische Hochschule Karlsruhe (PHKA)	99	3,41	1,14

Table 2: T-test beliefs scale results

On the other hand, with regard to Action (table 3) the results shows that the use of inclusive actions are higher among the Italian faculties for the last three subgroups. The German Students responses for the first group instead are higher than the Italian groups. But the results underline the difference among the students' positive beliefs and the real action of their professor. In fact, the mean scores both subgroups indicate that the faculties use hardly ever/sometimes these inclusive practices.

T-TEST ACTION SCALE AMONG UDA (ITALY) AND PHKA (GERMANY) STUDENTS				
SUB-GROUPS	UNIVERSITY	N	Mean	Std.-deviation
1 modification for students with documented disabilities	Università degli Studi G. D Annunzio (UDA)	103	3,74	1,51
	Pädagogische Hochschule Karlsruhe (PHKA)	99	3,86	1,78
2. inclusive learning materials for students with and without disabilities	Università degli Studi G. D Annunzio (UDA)	103	3,24	1,07
	Pädagogische Hochschule Karlsruhe (PHKA)	99	2,95	,89
3. courses design and assessment for students with and without disabilities	Università degli Studi G. D Annunzio (UDA)	103	3,20	,80
	Pädagogische Hochschule Karlsruhe (PHKA)	99	2,89	,75
4. inclusive use of language for students with and without disabilities	Università degli Studi G. D Annunzio (UDA)	103	3,68	,89
	Pädagogische Hochschule Karlsruhe (PHKA)	99	2,92	1,56

Table 3: T-test action scale results



1.6 Conclusion

In this article the importance of beliefs also in the educational field is underlined, in fact the above-mentioned questionnaire compares the student's beliefs and the reported practices of university faculties. The results show that students at both universities rate the measures for inclusive teaching and learning positively. However, students at the PH Karlsruhe remain more doubtful than students at the University of G. D'Annunzio about the use of the language of instruction in foreign language courses. We might assume that it depends on a cultural factor, but to assume interviews and a deep analyses should be done. Finally, the results show for both groups a positive endorsement but a lack of implementation, as other studies have shown [5]. It would be interesting to interview the faculties to understand better why this difference exists and which are the main cause. It could be external factors such as lack of institutional support, time as well as internal factors.

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