

New perspectives for Inclusive University Teaching: EduPlan4Inclusion

Catia Giacconi*, Noemi Del Bianco**, Ilaria D'Angelo***, Amanda Kraus****

Abstract

This paper presents the “EduPlan4Inclusion” pilot project, developed by the University of Macerata and the University of Arizona. “EduPlan4Inclusion” aims to implement accessibility in academic contexts for all students, through the use of technology. The project intends to highlight a possible way for Universities to balance the demands of an inclusive curriculum to a diverse student cohort within a technology-rich environment. In conclusion, the results of the presented study can be used to directly guide the reform of curriculum design and teaching methods in Colleges and Universities, in order to activate the possibility of implementing a more shared inclusive culture.

Keywords: Inclusive University; Universal Design; Pedagogical Planner

1. Introduction

Shared culture and active participation of students with disabilities in the academic contexts it is nowadays a challenge to which pedagogy and special teaching are trying to answer.

In outlining the legislative stages that marked the access to the right to study at the higher education level of students with disabilities or with Specific Learning Disorders (SpLDs) in Italy, the processes of social democratisation appear essential (Mura, 2011). In this cultural fizz, several organizations and institutions engaged themselves into enabling the right to study and full academic participation of people with disabilities.

In Italy, despite of the high sensitivity on the subject (Pavone Bellacicco, 2018; de Anna, 2016; d'Alonzo, 2009), the normative frameworks were defined only during the Nineties. The present evolution of the normative

* Full Professor of Didactic and Special Pedagogy, Department of Education, Cultural Heritage and Tourism, University of Macerata, Italy. E-mail: catia.giacconi@unimc.it.

** Ph.D. Student in Human Sciences, Department of Education, Cultural Heritage and Tourism, University of Macerata, Italy. E-mail: noemi.delbianco@gmail.com.

*** Ph.D. Student in Education, Cultural Heritage and Tourism, University of Macerata, Italy. E-mail: ilariadng3@gmail.com.

**** Ph.D., University of Arizona. E-mail: akraus@arizona.edu.

framework is historically attributable to the principle of educational continuity (de Anna, 2016) as established by the Constitutional Court (sentence 215, 1987)¹. Today, normative and administrative tools ensure the planning of inclusive contexts even in the higher levels of education.

In our studies, we have focused in a reconstruction of the normative framework and of the structural changes that occur at organizational, teaching and cultural levels in order to create competent and inclusive University contexts (Giaconi *et al.*, 2020; Del Bianco, D'Angelo, 2019; Giaconi *et al.*, 2018a; Giaconi *et al.*, 2018b). These reflections lead us to focus, in this paper, to shed light on possible inclusive scenarios to be implemented in the Universities thanks to the news perspectives of Universal Design (Bracken, 2019; Bedrossian, 2018; Moriarty, 2007; Rose, Meyer, 2002; Meyer, O'Neil, 2000).

The theoretical and practical framework of Universal Design (UD), that has its application in the United States higher education contexts since the 1990s, show the possibility of concrete positive effects to full accessibility and participation for the entire student body (de Anna, Covelli, 2018; Silver, Bourke, Strehorn, 1998). This framework, during the time, «has provided a model that incorporates inclusion as the center of instructional practice» (Moriarty, 2007, p. 253), by identifying and eliminating barriers, as well as maintaining the academic rigor (Burgstahler, 2015). Universal Design do not exclude the use of devices or assistance tools by people with disabilities, but moreover emphasizes the access, the participation, and the accommodation of all students, through different occasions and ways. In this direction, the ICTs²

¹ The latter established that the right to higher education should not be “facilitated” but “granted” thus ensuring the access to higher education. Law 104 of 1992 contains the early elements for the integration of people with disabilities in the Universities. To integrate and effectively implement Law 104 of 1992, Law 17 of 1999 is enacted, in it the Italian law-maker oriented the Universities towards the adoption of a systematic approach in terms of inclusion and support for the students with disabilities (Rainone, Freda, Valerio, 2010). The modifications produced by Law 17 of 1999 can be summarised as the points below (de Anna, 2016): the guarantee of specific technical and didactic aids, also through agreements; the establishment of special tutoring services at the universities to support the student; extension of individualised treatment in agreement with the teacher of the subject and with the help of the tutoring service; the use of specific technical means in relation to the type of needs for carrying out the exams; the possibility of carrying out equivalent tests on the suggestion of the specialized tutoring service; the establishment by the Universities of a teacher delegated by the Rector with coordination, monitoring and supporting functions for all initiatives concerning integration within the University.

² Focusing on the international scene, as declared by the Convention on the Rights of Persons with Disabilities (CRPD, 2006) there is the need to “provide accessible information to persons with disabilities about mobility aids, devices and assistive technologies, including new technologies, as well as other forms of assistance, support services and facilities” (Art. 4, letter h); in order to “design, development, production and distribution information and

can integrate the accessibility offered by Assistive Technologies (AT) (Besio, 2005), contributing to the expansion of knowledge, skills and autonomy of all students (Giaconi *et al.*, 2018b).

Since making University life closer to the students and facilitate their access to the necessary services and information can be a central point for an effective integration (de Anna, Covelli, 2018; Santi, Di Masi, 2017; Kopcha, Rieber, Walker, 2016), we present a pilot project, developed and carried out at the University of Macerata and at the University of Arizona, that is called “EduPlan4Inclusion”, aimed to implement accessibility in academic contents for all students, through the use of technology. The project wants to highlight a possible way for Universities to balance the demands of an inclusive curriculum to a diverse student cohort within a technology-rich environment. In conclusion, the research proposes in this paper can be used to directly guide the reform of curriculum design and teaching methods in Colleges and Universities, with the aim to activate the possibility of implementing a more shared inclusive culture.

Answering only the individual needs of a student means to create specific services producing an “exclusive specialism” (Canevaro, 2014), which would not allow to build an inclusive vision in the Universities; for these reasons, the research teams of University of Macerata and the University of Arizona, with the goal of safeguarding the needs of everybody, proposed working hypotheses to safeguard the fundamental rights of participation and active citizenship in the University contexts.

2. Pedagogical proposal for Inclusive University: an international pilot project

The project we are going to present in this section, named “EduPlan4Inclusion”, is an example of a project designed by the research teams of the University of Macerata and the University of Arizona. The actions undertaken are oriented to promote the professional updating of the Professors, with a particular reference to the aspects concerning the accessibility of learning, in order to review teaching in a profound sense. The aim is to know how to start from the current limits and project the teaching towards a broad and innovative perspective.

communications technologies and systems” (Art. 9, letter h). In European context, the effective integration of ICT in learning/teaching practices and training in general allows us to understand technologies as useful tools to promote student creativity and the renewal of teaching methods (EACEA, 2011). The European Commission (2008), declares the importance of using “new multimedia technologies and the Internet to improve the quality of learning by promoting access to resources and services” (European Commission, 2008, p. 6).

Within the “EduPlan4Inclusion” project the reflection on University teaching is based on the concept of alignment (Del Bianco, D’Angelo, 2019; Giaconi, 2015; Biggs, 2003) between learning outcomes, learning activities and assessment, as an essential requirement for educational programmes. Specifically, the proposed research can be considered part of the paradigms of planning and inclusive teaching (Giaconi *et al.*, 2018).

The creation of “EduPlan4Inclusion” is subordinated to the attainment of specific realization objectives, each of them related to a precise pedagogical emergency.

The first problem is related to classifying the needs of students with disabilities and with SpLDs who attend University courses, and of University Professors, when they have to design disciplinary contents and produce material for lectures to be delivered in classes that include students with disabilities and SpLDs. In fact, the project “EduPlan4Inclusion” falls within the scope of producing devices for the so-called Pedagogical Planners (Giaconi *et al.*, 2018a, 2018b; Giaconi, Del Bianco, 2018; Grainne, 2012; Goodyear 2005; Laurillard, 2002) in the broadest sense of the term; alternatively, it is capable to provide Professors with a structured guideline along with an integrated system of technologies to create contents and inclusive learning itineraries designed to allow students with disabilities or Specific Learning Disorders to customize the accessibility and usability of the materials, thanks to the integration of specific Virtual Learning Environments (Del Bianco, D’Angelo, 2019; Giaconi *et al.*, 2018a; Giaconi, Del Bianco, 2018). Turning the attention into the specific typology of users it is essential not to considerate only special educational needs, but also the psychological and emotional needs that contribute to the more or less active participation in the University courses. Considering the delicate relationships of functional profiles, contextual demands and the necessity to align the needs of the areas of the Quality of Life (Capellini *et al.*, 2018; Giaconi, 2015), University Professors, thanks to “EduPlan4Inclusion”, can design customized support for the didactic planning.

The second specific realization objective is identifiable in the study and development of an innovative integrated system of technologies to support inclusive design and virtual prototyping of solutions based on specific characteristics. This User-Centred Design (UCD) makes possible to create a system of technologies built in the platform “transparent” to the user (teacher and/or student), at the same time, immediately available to use. The interface assumes a remarkable importance, and, unlike what normally happens, it does not have to be decided *a-priori*, but should be adapted afterwards through the adoption of special hardware and/or software, since it is planned to respond functionally to the needs of the final user. Defining the user needs and the

prototyping modes, it is also possible to describe the purely technological details of the platform, or the specificities of architecture, advanced, intelligent and inclusive hardware and software technologies. They allow, on one hand, to support Professors in planning inclusive teaching itineraries and personalized material, on the other, to monitor the accessibility and usability of the material by the students with disabilities and with SpLDs.

The idea of considering the user at the centre of the platform is pursued not only during the designing phase, but also during the prototyping and testing phases, in order to improve performances and evaluate the real benefits of the “EduPlan4Inclusion” system. The prototypal evaluation of the platform, including the network of technological devices considered useful, is aimed at defining the degree of reliability, accessibility and usability of the developed solutions. On the basis of experimental results, the platform is then systemized for the initial and in-service training of the University teachers.

Following these pedagogical reflections, we have elaborated the project “EduPlan4Inclusion”, as an innovative attempt within teaching planning at Universities, able to integrate multiple functions and technologies, to succeed where other proposals failed: the accessibility also for students with disability or Specific Learning Disorders. Furthermore, to achieve this aim we decided to involve University students with disabilities and with SpLDs in the project, in line with the emancipating research, to improve performance and evaluate the real benefits of the system.

In the theoretical framework of reference, the advancement of the knowledge of “EduPlan4Inclusion” consists in creating a supportive environment for designing for University Professors with an integrated system of technologies and allowing, thanks to a double login, the active participation of students with disabilities and SpLDs in the route customization. This is possible through the development of an innovative platform with high technological contents, capable to integrate several devices (audio, video, highly readable fonts, and more) and create the material and the multi-media lectures, with different levels of accessibility and usability for students with disabilities (for example, sensory disability) or with Specific Learning Disorders (for example, Dyslexia). In relation to the state of the art, “EduPlan4Inclusion” allows, on one hand, Professors to have under the “same roof” an integrated system of technologies, able to design multimedia material and multiple and customizable trails; on the other hand, it is available to students, and in particular to students with disabilities and SpLDs.

Technically, “EduPlan4Inclusion” is an Educational Planner, a web-based tool to support designing educational interventions, based on a client-server architecture and accessible with a browser allowing compatibility with a high number of devices. The introductory layer it is differentiated according to the

macro typology of the user at the time of the login (for example, student or teacher login), while the applicative core type will be modular. In this way, the information could be followed by different routes according to the specific needs of the user through an accurate hierarchical structuring and component modules dedicated to interaction, thus creating a web-based tool focused on the user, easily available, usable on a vast scale.

Mainly, the expected innovations concern the general theme of inclusive design and teaching in University contexts: the project wants to provide an operating environment open to devices of different origins and functions, to create customizable and accessible educational trails. “EduPlan4Inclusion” thanks to the integration of multiple technological tools, is designed to be a useful and accessible resource for everyone.

3. Conclusion

The presence of students with disabilities and with SpLDs, within Colleges and Universities, resulted in an increased strategic planning specifically addressed to student's needs (Demetriou *et al.*, 2019; Rivera *et al.*, 2019; Giacconi *et al.*, 2018a; Madaus, 2005; Him-Unis, Friedman, 2002). However, we want to underline that in the realization of services and supports some difficulties remain; for this reason, pedagogical work is still necessary in this direction. The goal of inclusion does not stop in ensuring access to the academic system to everyone, such commitment is not enough unless it comes with interventions aimed to support and enhance the participation of students with disabilities and SpLDs as well. In a multidimensional perspective, the inclusive proposal belongs to the wider attempt to guarantee a real right to active contribution to the academic dynamics, whose keyword is “active participation”. For students with disabilities or SpLDs “participation” to the academic dimension enables to take decisions that concern the individual learning processes, making choices aimed to reach goals shared by students and institutions.

With reference to the action toward the goal of ‘taking inside’ the training context in all students has a twofold purpose; on one hand, to promote the active participation to the learning process (Del Bianco, 2019), so that it would be possible to activate unique peculiar skills of every student; on the other, to attain the personal learning goals and, at the same time, the ones required by the institution (Rainone *et al.*, 2010).

Therefore, future hopes are based on the fact that education and higher education policies can ensure that all students develop and acquire skills for greater active citizenship (Canevaro, 1998). This task can be solicited by

University teachers, among other figures, who in close relationship with students. Professors can, in fact, contribute to the achievement of widespread awareness of participatory and inclusive themes. Furthermore, the awareness of the figure of the teacher reaches management tasks complex role, which goes beyond researching, knowledge sharing and implementing organisational or management tasks to achieve the idea of innovative didactics, where the improvement of the teachers' pedagogical/didactic skills becomes an important factor in the development of the education of each student (Giovannini, 2010). As sustained by Felisatti and Serbati (2014):

Knowing how to teach demands to the teacher much communicative ability and interaction with the students, also requires competences in the overall design of the teaching and training actions, strategic coordination and a constant tuning of contributions and functions, transformative leadership and choices to enable individual and group empowerment (Felisatti, Serbati, 2014, p. 145).

Furthermore, and increasingly, the training and didactic proposal of University Professors must answer the needs of diversification of the students, using advanced methodologies and technologies with organisational and didactic interactive structures, elaborating multiple and personalised strategies of intervention (Giaconi *et al.*, 2018a; Ianes, 2005). For these reasons, in the future, the aim of being able to match the complexity inherent to the training dynamics, careful preparation and constant updates that are aimed at inclusive topics are necessary for all Professors in University contexts. In this direction, we underline the potential of a teacher education through the structuring of independent academic units, such as, *Centres for teaching and learning excellence and Faculty development*, or in short, *Teaching and Learning Centres*, which have the specific purpose of improving teaching through the preparation and support of the Professors' professionalism. These centres should represent places of training, reflection and research, where identifying the most suitable ways to cover the functions of a teaching that is more in line with the needs of effective teaching could be experimented. In this reality, one additional resource can be represented by digital tools. E-learning centres with online platforms set to support the design of University Professors in creating inclusive courses and educational contents, with particular attention to the construction of accessible formats for students with disabilities and with SpLDs. Consequently, the centres become multimedia and non-multimedia organisations that shape a new teaching professionalism.

These achievements should not be limited to Professors, but would also represent a significant support for the students' strategic learning methods focused on the use of technologies. On-purpose E-learning centres could

favour the accessibility and usability of teaching material with reference to the students' educational needs, also with the possibility of accessing personalized learning itineraries. In this direction, the answer to everyone's needs would be feasible with greater flexibility, thanks to diversified training courses capable of achieving objectives that reduce the negative connotation linked to the concept of difference.

Finally, talking about inclusion in higher education contexts means being able to propose a multidimensional and ecological approach, which would activate complementary and integrated actions from all involved "actors" involved in the processes of the higher education's dynamics.

References

- Bedrossian L. (2018). Understand and promote use of Universal Design for Learning in higher education. *Disability Compliance for Higher Education*, 23(10): 1-16.
- Bellacicco R. (2018). *Verso una università inclusiva. La voce degli studenti con disabilità*. Milano: FrancoAngeli.
- Besio S. (2005). *Tecnologie assistive per la disabilità*. Lecce: Pensa MultiMedia.
- Biggs J. (2003). *Teaching for quality learning at university: What the student does*, SRHE and Open University Press, Buckingham.
- Bracken S., Novak K. (2019). *Transforming Higher Education Through Universal Design for Learning: An International Perspective*. New York: Routledge.
- Burgstahler S. (2015). *Universal Design in Higher Education: From Principles to Practice*. (2nd edition), Harvard University Press.
- Canevaro A. (2014). Le università e i disabili come originalità, ovvero ripensare la realtà inclusiva... Ricordando Edoardo Arslan. In Pavone M., a cura di, *Inclusione di studenti con disabilità e DSA nell'Università: una sfida possibile*, pp. 323-327.
- Canevaro A., a cura di (1998). *La formazione dell'educatore professionale: percorsi teorici e pratici per l'operatore pedagogico*. La Nuova Italia, Roma.
- d'Alonzo L. (2009). Il protagonismo del figlio disabile adulto: lavoro, università. In: Pavone M., a cura di, *Famiglia e progetto di vita. Crescere un figlio disabile dalla nascita alla vita adulta*. Trento: Erickson.
- de Anna L. (2016). *Le esperienze di integrazione e inclusione nelle università tra passato e presente*. Milano: FrancoAngeli.
- De Anna L., Covelli A. (2018). La Didattica inclusiva nell'Università: innovazione e successo formativo degli studenti con Special Educational Needs. *Form@re - Open Journal per la formazione in rete*, 18(1): 333-345.
- Del Bianco N. (2019). *Autodeterminazione nelle persone con disabilità, Studi, ricerche e questioni di pedagogia speciale*. Milano: FrancoAngeli.
- Del Bianco N., and D'Angelo I., a cura di (2019). *Inclusion in the University: studies and practices*. Milano: FrancoAngeli.

- Demetriou C., Miller G., Mason L. G., Salvesen C. (2019). A Model Program for the Success of College Students with Attention and Learning Disorders. *Education Sciences & Society*, 10(1): 103-119.
- Felisatti E., Serbati A. (2014). Professionalità docente e innovazione didattica. Una proposta dell'Università di Padova per lo sviluppo professionale dei docenti universitari. *Formazione & Insegnamento*, 12(1): 137-153.
- Giaconi C. (2015). *Qualità della vita e adulti con disabilità*. Milano: FrancoAngeli.
- Giaconi C., Del Bianco N. (2018). Didattica universitaria e dispositivi tecnologici inclusivi: il progetto Inclusione 3.0. In: Giaconi C., and Del Bianco N., a cura di, *In Azione: prove di Inclusione*. Milano: FrancoAngeli.
- Giaconi C., Capellini S. A., Del Bianco N., Taddei A., D'Angelo I. (2018a). Study Empowerment for inclusion. *Education Sciences & Society*, 2: 166-183.
- Giaconi C., Taddei A., Del Bianco N., Capellini A. S., (2018b). Inclusive University didactics and technological devices: a case study. *Education Sciences & Society*, 9(1): 191-217.
- Giaconi C., Taddei A., Del Bianco N., Caldarelli A., D'Angelo I. (2020). Dalla 'voce degli studenti' alla co-progettazione di percorsi inclusivi: uno studio di caso. *Collana SIRD, Studi e Ricerche sui processi di apprendimento e valutazione*, Lecce: Pensa Multimedia.
- Giovannini M. L. (2011). La formazione all'insegnamento dei professori universitari. In: L. Galliani, a cura di, *Il docente universitario. Una professione tra ricerca, didattica e governance degli Atenei*. Lecce: Pensa MultiMedia.
- Goodyear P. (2005). Educational design and networked learning: Patterns, pattern languages and design practice. *Australasian Journal of Educational Technology*, 21(1): 82-101.
- Grainne C. (2012). *Designing for learning in an open world*. Berlin: Springer Science & Business Media.
- Ianes D. (2005). *Didattica speciale per l'integrazione. Un insegnamento sensibile alle differenze*. Trento: Centro Studi Erickson.
- Kopcha T. J., Rieber L. P., Walker B. B. (2016). Understanding university faculty perceptions about innovation in teaching and technology. *British Journal of Educational Technology*, 147(5): 945-957.
- Laurillard D. (2002). *Rethinking university teaching: A conversational framework for the effective use of learning technologies*. London: Routledge Falmer.
- Madaus J. (2005). Navigating the college transition maze: A guide for students with learning disabilities. *Teaching Exceptional Children*, 37(3): 32-37.
- Meyer A., O'Neil L. (2000). Beyond access: Universal design for learning. *The Exceptional Parent*, 30(3): 59-61.
- Moriarty M. A. (2007). Inclusive Pedagogy: Teaching Methodologies to Reach Diverse Learners in Science Instruction, *Equity & Excellence in Education*, 40: 252-265.
- Mura A. (2011). *Pedagogia speciale oltre la scuola. Dimensioni emergenti nel processo di integrazione*. Milano: FrancoAngeli.

- Pavone M., Bellacicco R. (2016). University: a universe of study and independent living opportunities for students with disabilities. Goals and critical issues. *Education Sciences & Research*, 1: 101-120.
- Rainone N., Freda M. F., Valerio P. (2010). Inclusione e partecipazione attiva all'università. *Psicologia Scolastica*, 9(1): 81-98.
- Rivera C. J., Wood C. L, James M., Williams S. (2019). Improving Study Outcomes for College Students With Executive Functioning Challenges. *Career Development and Transition for Exceptional Individuals*, 42(3): 139-147.
- Rose D. H., and Meyer A. (2002). *Teaching every student in the digital age: Universal design for learning*. Alexandria: Association for Supervision and Curriculum Development.
- Santi M., and Di Masi M., a cura di (2017). *InDeEP University Un progetto di ricerca partecipata per una Università inclusiva*. Padova: Padova University Press.
- Silver P., Bourke A., Strehorn K. C. (1998). Universal instructional design in higher education: an approach for inclusion. *Equity & Excellence in Education*, 31(2): 47-51.

Normative References

- Legge 5 febbraio 1992, n. 104, *Legge-quadro per l'assistenza, l'integrazione sociale e I diritti delle persone handicappate*.
- Legge 28 gennaio 1999, n.17, *Integrazione e modifica della legge-quadro 5 febbraio 1992, n.104 per l'assistenza, l'integrazione sociale e i diritti delle persone handicappate*.
- Legge del 8 gennaio 2010, n. 170, *Nuove norme in materia di disturbi specifici di apprendimento in ambito scolastico*.
- Commissione Europea, DGXXII (1996) La Carta di Lussemburgo, Bruxelles, Belgio.
- Trattato di Amsterdam 1997, text available at the web site: https://europa.eu/europeanunion/sites/europaeu/files/docs/body/treaty_of_amsterdam_it.pdf.

Web References

- Commissione europea (2008), Comunicazione della Commissione al Consiglio, al Parlamento europeo, al Comitato economico e sociale europeo e al Comitato delle regioni - Nuove competenze per nuovi lavori Prevedere le esigenze del mercato del lavoro e le competenze professionali e rispondervi. COM (2008), 868 definitivo (Ultimo accesso: 1/03/2019).
- EACEA (2011), *Cifre chiave sull'utilizzo delle TIC per l'apprendimento e l'innovazione nelle scuole in Europa*, http://www.indire.it/lucabas/lkmw_file/eurydice//KD_TIC_2011_IT.pdf (Ultimo accesso: 1/03/2019).
- Convenzione ONU (2006), <https://www.unric.org/html/italian/pdf/Convenzione-disabili-ONU.pdf>.