REMOTE LEARNING AND INCLUSIVITY: A LAB-BASED EDUCATIONAL EXPERIMENT FOR FUTURE SPECIAL NEEDS TEACHERS

DIDATTICA A DISTANZA E PROCESSI INCLUSIVI: UN ESEMPIO DI PROPOSTA LABORATORIALE PER I FUTURI DOCENTI DI SOSTEGNO

Rosa Sgambelluri
University of Reggio Calabria, Italy
rosa.sgambelluri@unirc.it

Abstract

The present effort is a remote-learning lab experiment carried out at the University of Reggio Calabria, Italy, to guarantee the continuation of the teaching program in the Major Course for future special needs teachers and give all students the opportunity to follow lessons regularly in spite of the Covid-19 crisis. It provides an example of laboratory-experience-based activity in *e-learning* mode addressing 111 students (future special needs teachers), with a view to strengthening lab-based remote-learning and foster cooperative learning on line.

The aim here is to trigger methodological considerations on how to deal with the major changes that universities have made in order to adequately respond to a crisis that suddenly hurdled traditional teaching and learning activities.

Nel contributo viene descritta un'esperienza laboratoriale a distanza che l'Università di Reggio Calabria ha realizzato per garantire il proseguimento delle attività didattiche previste per il Corso di Specializzazione per le Attività di Sostegno, assicurando a tutti gli studenti la possibilità di seguire regolarmente le lezioni nonostante l'attuale situazione di emergenza sanitaria. Viene presentato un esempio di proposta didattica basata su una sperimentazione di tipo laboratoriale in modalità *e-learning* rivolta a 111 studenti, futuri docenti di sostegno, allo scopo di potenziare la didattica laboratoriale e gli apprendimenti attraverso percorsi didattici a distanza e di promuovere l'apprendimento cooperativo in rete.

Il lavoro intende indurre ad una riflessione metodologica sulla gestione dei cambiamenti che le Università stanno realizzando come risposta alla pandemia che in un primo momento ha rappresentato un ostacolo al proseguimento delle diverse attività formative.

Keywords

Remote Learning, E-Learning, PE Lab, Inclusivity, Cooperative Learning, Special Needs Teachers.

Didattica a distanza, laboratorio motorio, inclusione, apprendimento cooperativo, docenti di sostegno

Introduction

Pursuant to *Legislative Decree No. 22 (8th April 2020)* on Compulsory Remote Learning in Italy due to the Covid-19 crisis, and following the suspension of all teaching and learning activities at school and university, the Mediterranean University of Reggio Calabria has made major changes in the planning of its own teaching activities since March 2020.

At the moment, owing to the suspension of all teaching activities in the present Academic Year (2020/2021), the Major Course for Future Special Needs Teachers is conducted online on Microsoft Teams.

Of course, the shift from traditional classroom teaching to remote learning has evinced that this new form of education does not amount to teacher-student dialogue only. It is a complex all-involving process which requires a reconsideration and rearrangement of teaching schemes to adjust to the space-time advantages and drawbacks typical of the new technological environments.

This major change in planning and rearranging lessons has also applied to the PE Teaching and Learning Methods and Styles lab for students from the IV Special Needs course at the University of Reggio Calabria since January 2021.

The E-Learning PE lab activities have been carried out according to specific planning requirements in terms of safety, inclusivity and quality control. To this end, group-work planning has taken into account each student's learning times, methods and styles. Meta-cognitive evaluation and self-assessment sessions have also been held in order to devise teaching and learning strategies that could best foster the effective acquisition of knowledge and course contents.

Remote-learning group-work has enabled students to develop critical teaching and learning practices in learn-as-you-do and/or do-as-you-learn environments (Sibilio, 2002) where teaching and learning routes are traced, specific competences are acquired and where the teaching role is enacted and elaborated on practices and actions (Rossi, 2011; Zanniello, 2008).

In our E-Learning PE lab sessions the student has become an active and critical protagonist of the experiment and the teacher has fostered the development of specific personal and professional skills which will contribute to the educational experience of a special-needs-teacher-to-be.

Our proposal here is not a conclusive theory on online teaching and its impact on students, but an impulse to consider teaching methods and styles in view of the major planning changes characterizing education during the Covid-19 crisis.

1. E-Learning in Europe: a brief synopsis

Schooling today strictly depends on E-Learning, not only because technology influences teaching, but also because it plays a crucial part in shaping and forming the future teacher.

Some investigations (OCSE, 2015b) show that the use of technology in teaching is still lagging behind and the potential educational benefits E-Learning has evinced encourage educational operators to face all sorts of educational challenges, even the most ambitious ones.

From a social point of view, inclusivity poses a majour challenge – bridging the gap between the computer illiterate, or quasi-illiterate, and the computer skilled, or highly-skilled. As the European Commission maintains, this gap could widen the social divide and further exclude some parts of the population (European Commission, 2017b). On the other hand, from an educational point of view, not only do we have to guarantee that students develop crucial computer skills, but we also have to take full advantage of the use of technology in teaching (Cachia et al., 2010).

Recent studies (Blossfeld et al., 2018; Süss, Lampert e Wijnen, 2013) evince that the use of technology in teaching could foster the creation of innovative and stimulating learning environments that can increase student motivation.

Various national and European policies have long acknowledged the need to keep promoting digital skills, so much so that computer literacy should be developed as a lifelong activity. No wonder it was included among the key competences for lifelong learning in 2006, when the 1st

European Recommendation on the subject (Recommendation of the European Parliament and Council, 18th December 2006, on the key competences for lifelong learning, OJ L 394 30th December 2006, pp. 10-18) was published.

In 2018, following some modifications, computer literacy was actually considered a conscious, critical and responsible use of digital technology for learning, working and participating in social activities, as well as the inclusion of it (Recommendation of the Council, 22nd May 2018, concerning the key skills for lifelong learning, OJ C 189 4th June 2018, pp. 1-13).

Likewise, since January 2018, the Communication of the Commission for the ICT Learning Action Plan (European Commission, 2018) has defined computer skills as being a conscious and critical use of digital technology. So, it is all about the need to promote, support and spread the functional use of innovative computer-based educational practices.

Also the new digital learning action plan of the European Commission in 2021-2027 (European Commission, Digital Education Action Plan, 2021/207) envisages high-quality digital learning, one which is inclusive and accessible throughout Europe. Two strategic priorities characterize this action plan: fostering the development of a highly efficient digital learning ecosystem and acquiring the digital competences and skills necessary for making the big digital change.

As regards the educational use of digital technology, though, what factors in the most is the teachers' computer skills, namely to what extent teachers consider digital technology an added value in teaching and learning. The development of their ICT skills is crucial for the educational system to adequately meet the most modern challenges in the 21st century.

Teacher ICT skills and, for that matter, teaching and learning them, are analyzed in the European Reference Framework for Digitally Competent Educational Organizations (DigCompOrg/ European Framework for Digitally Competent Educational Organisations).

The SELFIE/Self-Reflection on effective learning by promoting innovation through digital technologies for teaching (European Commission/EACEA/Eurydice, 2018) is an online DigCompOrg-based self-reflection instrument which is free for schools and helps them identify their strong and weak points as to the ways digital technologies are used in teaching and learning.

DigComp, DigCompEdu and DigCompOrg/SELFIE are three European Frameworks which aim at providing a common language and discussion and development ground at national, regional and local level. They offer a consistent series of Europe-wide self-reflection tools for citizens and students (DigComp, Carretero, Vuorikari & Punie, 2017), educators (DigCompEdu, Redecker, 2017) and schools (DigCompOrg/SELFIE, European Commission/EACEA/Eurydice, 2018).

Also at university the development of digital competences should entail specific teacher training schemes that would foster innovation in teaching and the provision of learning devices consistent with their knowledge and the students' current training needs. Teachers, however, are showing greater and greater interest in experimenting with innovation in teaching as they face serious difficulties trying to get their students involved in learning and, in their turn, students too find it rather difficult to follow normalized lessons (Rossi, 2019).

2. Remote Learning and the Covid-19 Crisis: some relevant data

All recent statistical surveys reveal that the lack of devices, technological skills and adequate adaptive conditions are among the major reasons for the increase in special needs student drop-out rates (OCSE, 2020).

CENSIS (2020) shows that 40% of the headmasters have denounced a 5% drop-out rate, and 18% of them believe drop-out students amount to over 10% (Vicari & Di Vara, 2021).

According to a SIRD survey (2020), though, 8% of the students received no Integrated Digital Education and 18% received only very little (Vicari & Di Vara, 2021).

Also an ISTAT (the Italian Statistics Office) survey on 2019-2020 showed that special needs students participated less in remote learning than they did in face-to-face learning. Participation

in remote learning decreased between April and June 2020 – over 23% of special needs students did not take part in lessons (the percentage rose higher (29%) in the Mezzogiorno area) (ISTAT, 2020).

According to recent ISTAT data, there are many reasons for the slump in SN student participation in remote learning; among the most common reasons, we cannot fail to mention the severity of the Covid-19 pandemic (27%), the lack of cooperation from families (20%) and socio-economic instability (17%). Among less conspicuous but still not negligible quotas, 6% of the students received little or no remote learning because their educational inclusivity plans could not adequately adjust to E-learning, another 6% of them lacked technologic devices and, finally, 3% of them lacked specific educational aids. The paper has also revealed that technical and organizational difficulties, coupled with the lack of adequate tools and support and interaction problems, made participation in remote learning harder for special needs students than for ordinary students, especially if the former are severely impaired or come from poor socio-economic and cultural contexts. Such crucial factors have hindered or hurdled many teachers in their efforts to fullfill all their educational objectives, so much so that they had to sacrifice a very important one of them – socialization (which comes ahead of the acquisition of knowledge) (ISTAT, 2020).

A recent survey carried out by the Mediterranean University of Reggio Calabria stressed that remote learning is to be considered crucial not only in cases of emergency but at anytime; it is to be strengthened at university level, as it entails accurate planning and adequate teacher training; however, it cannot fully replace face-to-face learning (Vinci & Sgambelluri, 2020).

3. Remote-Learning PE Lab For Future Special Needs Teachers: an educational experiement

The PE Teaching and Learning Methods and Styles lab sessions for the IV Special Needs course at the Mediterranean University of Reggio Calabria (7th-20th January 2021) were attended by 111 students who aim at becoming special needs teachers.
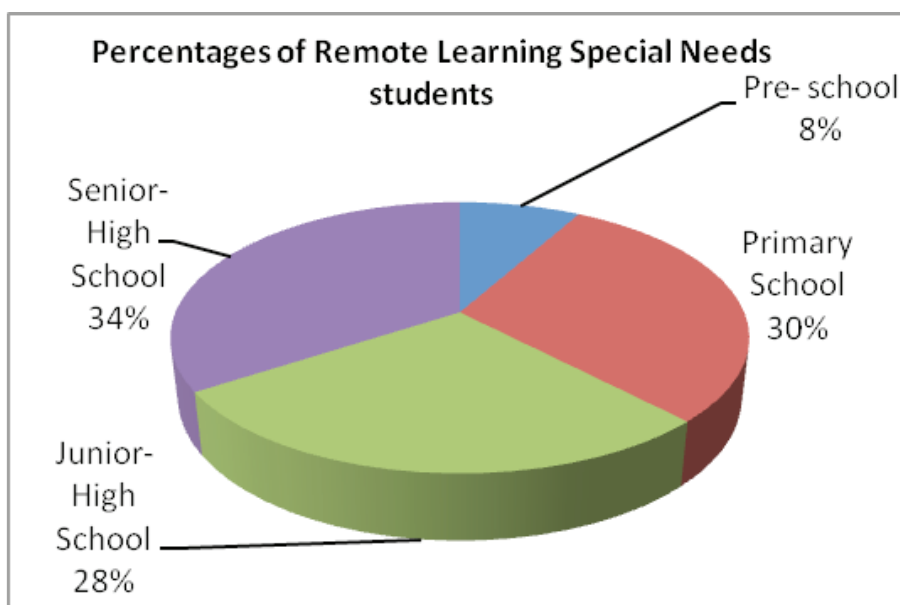
Graph. 1: Percentages of remote learning special needs students grouped
by the school level they wish to specialize in
(Academic Year 2019/2020)

School Level	No. of Students
Pre-school	9
Primary School	33
Junior-High School	31
Senior-High School	38

Tab. 1: Number of students in the Major Special Needs Course grouped
by the school level they wish to specialize in

Objectives

The Remote-Learning PE Lab For Future Special Needs Teachers aims at pursuing the following objectives:
- enhancing Lab-based teaching and learning through remote learning schemes;
- fostering cooperative learning on line.

Methods

The PE Teaching and Learning Methods and Styles lab sessions were attended by 111 studenti, grouped by school level as follows: 9 students for pre-school; 33 students for primary school; 31 students for Junior-High School; 38 students for Senior-High School. The lab sessions consisted of 4 5-hour classes for a total of 20 hours.

Planning Stages – PE Lab	Estimated Time	Lessons	Dates
1st Stage Explanation of the three motor tests Discussion, considerations and observations on the education viability of the three motor tests Explanation of the project work Subdivision into small groups by school level (4/5 students per group) according to the Learning Together cooperative model	2 hours 1 hour 1 hour 1 hour	**1st Lesson** 5 hours	7th January 2021
2nd Stage Planning of the educational experiment and choice of the impairment to be dealt with Initial realization of the project work by small groups	1 hour 4 hours	**2nd Lesson** 5 hours	13th January 2021
3rd Stage Realization of the project work by small groups	5 hours	**3rd Lesson** 5 hours	15th January 2021

4th Stage Realization of the project work by small groups of students Presentation of the various project works by group Discussion, considerations and observations on the experiment	2 hours 2 and a half hours 30 minutes	4th Lesson 5 hours	20th January 2021

Tab. 2: Stages of the Remote Learning PE Lab-Based Experiment

During their remote-learning sessions, students produced various project works (1 project work per group) whereby certain physical impairments (such as motor coordination problems, dyspraxia, perception and visual-spatial organization disorders) were studied indepthly. Some internationally-certified motion assessment tests like the *Movement Assessment Battery for Children (*Henderson, Sugden, 1992), the *Development Test of Visual-Motor Integration (*Beery, 1997) and the Piaget-Head Test (Galifret Granjon, 1980) were explained by the teacher and used as starting points for the experiment.

We chose these specific assessment tests because we were aware that future PE teacher training must necessarily entail serious efforts that would involve all educational training stakeholders, including University. The main challenge, though, was a thorough study of certain motion problems so widespread at school yet so neglected by educators.

Synoptic Table of the Planning Stages of the PE Lab-Based Experiment:

PROJECT WORK	
Title	
Key Competences (2018 Recommendations)	
Objectives	
Target Students	
Prerequisites	
Activities *(implementation stages)*	
Spaces	
Timetable	
Disciplines involved	
Methods	
Tools/Instruments	
Group Assessment *(Learning Together)*	

Tab.3: Project Work Structure

The group work carried out in the remote learning PE lab took a lot of cues from the *Learning Together* cooperative model by Bros. David e Roger Johnson (Johnson et al., 1994). According to the 5 stages typical of the aforesaid cooperative model, the group work entailed:

- positive interdependence: the teacher assigned clear tasks with a common objective;
- direct constructive interaction: through which the students were enabled to study together, share the resources available and fostering everybody's participation, albeit in remote learning conditions;
- the development of specific social skills: the teacher taught students the necessary skills to establish favourable interpersonal relations within the small group, which are: making decisions, listening to everybody, playing a leading role, managing conflicts, asking open questions;
- individual responsibility: each group showed responsibility in pursuing their objectives both individually and collectively;
- group work assessment: through which group members cross-checked and discussed the progress made toward fulfilling their objectives and the effectiveness of their work relations.

1. Assignment of clear tasks with common objectives by the teacher
2. Individual and Group Responsibility
3. Direct Constructive Interaction
4. Explicit teaching of social skills (making decisions, listening to everybody, asking open questions, etc…)
5. Group Assessment

Tab.4: *Learning Together* Cooperative Model

Conclusions

The E-learning PE lab for special-needs-teachers-to-be aims at strengthening lab-based teaching and learning according to the context of application. The need to continue educating on a remote-learning basis owing to the Covid-19 crisis and the thought of enhancing the various education-related activities have further increased the value of lab-based teaching and learning.

By going from *doing* to *reflecting on what is being and/or has been done* and viceversa, lab-based education has become more interactive and meta-educational. The use of Teams has enabled all students to work simultaneously and cooperatively.

The E-learning applied to a PE Teaching and Learning Methods and Styles lab-based experiment has surely entailed greater planning flexibility which "actually came in handy" when teachers tried to devise new forms of education capable of both incorporating the development of technologies in educational routes and promoting cooperative learning on line.

Moreover, we have come to the realization that remote learning does not hinder the human body's ability to express physicality and personality; it also allows students to create and tread educational routes that have never been trodden before.

We hope our experiment can also envisage a series of practical implementations as forms of comparison and discussion in face-to-face learning and lend itself to innovative critical contributions by students and teachers.

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