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Start@unito as Open Educational Practice in Higher Education

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Abstract

Open Educational Practices mainly refer to the use of Open Educational Resources, the adoption of innovative pedagogical models, and educators and learners' engagement in both formal and non-formal learning settings (Cronin & MacLaren, 2018; Koseoglu & Bozkurt, 2018). There are many experiences of open education context all over the world, and international organizations are redefining concepts of education that contribute to a change of perspective (UNESCO, 2019). In the context of open education, start@unito is an experience that delivers 50 open online courses in a Digital Learning Environment. Moreover, start@unito teaching practices are devoted to improving actual and prospective university students' learning and training, using innovative methodologies, like automatic formative assessment and adaptive teaching and learning, and technology, with advanced tools connected via an integrated system. This research analyzes the model of start@unito to show that it falls under the Open Educational Practices. The analysis compares the pedagogical strategies and evaluates adherence to the international OpenEdu Framework (Inamorato dos Santos et al., 2016). Quantitative and qualitative data promote the positivity of the start@unito experience. This research will show how such a model can improve OEP because of some of its peculiarities, such as the continuous availability and the use of adaptive methodologies.

KEYWORDS: Higher Education, Open Educational Resources, Open Educational Practices, Open Teaching, Start@unito

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1. Introduction

There has been a slow but steady increase in papers related to Open Educational Practices (OEP) in recent years, detected by (Koseoglu & Bozkurt, 2018), which collected paper abstracts and bibliographic data indexed in the Scopus database combining descriptive statistics, text mining, social network analysis, and content analysis. The reasons for this growing interest can be drawn from the recent development of other quite famous concepts like Massive Open Online Courses (MOOCs) and Open Educational Resources (OER), whose recommendations and standards are continuously stressed and developed by international organizations (UNESCO, 2019). For all these topics related to "openness", there is a tendency to view access as the principal concern of open education (Knox, 2013). On the other side, open processes aim at engaging learners with participation and dialogue, and policymakers should better understand them.

Numerous experiences try to evolve and develop good practices in open education. In Italy, the University of Torino is one of the largest universities, with more than 79000 students, covering all subjects except engineering and architecture. In the last years, our university has invested in e-learning methodologies and tools to explore new ways for teaching and learning: one of its largest open education actions is start@unito (https://start.unito.it), which is a Digital Learning Environment (DLE) that actually delivers 50 Open Online university Courses (Marchisio et al., 2019). Start@unito wants to facilitate students' transition from secondary school to university, with open courses related to the main first-year disciplines, offer an opportunity for education to all people, promote

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internationalization, and support in-person module leaders. Start@unito DLE mainly consists of a Virtual Learning Environment integrated with tools that facilitate autonomous and effective learning, like Automatic Formative Assessment (AFA) to provide students with immediate and interactive feedback and increase the interactivity and the adaptivity. The start@unito model provides the users with a repository of contents available to anyone through a Creative Commons license.

This paper aims to analyze the model of start@unito to show that it falls into Open Educational Practices. The analysis compares the pedagogical strategies and evaluates adherence to the international OpenEdu Framework (Inamorato dos Santos et al., 2016). Quantitative and qualitative data promote the positivity of the start@unito experience. This research will show how such a model can improve OEP because of some of its peculiarities, such as the continuous availability and the use of adaptive methodologies. Section 2 illustrates the state of the art in which the research of this paper is inserted. Section 3 presents the research questions and the methodology adopted to carry out the research. Section 4 shows the adherence of start@unito to OEP. Section 5 discusses the impact analyses. Section 6 delineates opportunities and future challenges.

2. State of the art

In literature, the definition of Open Educational Practices (OEP) is not universally acknowledged, and various authors provide different nuances of it. As this is a research field born in recent years, a collection of different definitions and perspectives about OEP was carried out in (Cronin & MacLaren, 2018). In so doing, they also considered expansive definitions of OEP that encompass open content but also allow for multiple entry points.

One of the most used is given in (Ehlers, 2011) who defines OEP according to the previous background provided by the OPAL report as "practices which support the (re)use and production of OER through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path". Open practices address the whole OER governance community: policymakers, managers/ administrators of organizations, educational professionals, and learners (OPAL, 2011). This definition emphasizes different aspects and stakeholders that take part in OEP development. Open nature is necessary because it is in the name of OEP themselves, but it is not enough because changes in educational, institutional, and pedagogical architectures need to be facilitated.

(Beetham et al., 2012) analyzed the outcomes of the UK OER program, which provided funding and reflections on more than 80 projects. They highlighted six distinct practices that characterize OEP:

- OER production, management, use and reuse, open licensing materials.
- Developing and applying open/public pedagogies in teaching practice to facilitate students and teachers and contribute to public knowledge resources.
- Open learning, with peer-to-peer learning, sharing outcomes, and open accreditation.
- Practicing open scholarship, including open research, open data, and open access publication.
- Open sharing of teaching ideas, sharing examples of teaching practice.
- Use of open technologies in an educational context, including social media and digital open tools.

Inside OER Commons, the project created by the Institute for the Study of Knowledge Management in Education (ISKME), the managers state that "the move to Open Educational Practices (OEP) is more than a shift in content, it is an immersive experience in collaborative teaching and learning. OEP leverages Open Educational Resources (OER) to expand the role of educators, allowing teachers to become curators, curriculum designers, and content creators" (OER Commons). Even other OER repositories relate to OEP. In (MERLOT), they state the following practices:

- Adopting OERs to make college more affordable.
- Redesigning courses to improve student learning in academic courses.
- Redesigning programs and courses to improve career and technical education outcomes.
- Adopting virtual labs to innovate STEM education.
- Applying quality assurance methods to improve online and hybrid instruction.
- Supporting institutions migrating to online instruction.

Following this last point, some experiences in creating communities of practice in open education were created (Tovar et al., 2017).

OEP have different meanings and different nuances and areas of application (Hodgkinson-Williams, 2014):

- Technical, which concerns interoperability, open formats, connectivity, technical skills, equipment.
- Legal, about open license parameters; open license knowledge and advice.
- Cultural, concerning conceptions of knowledge and curricula.
- Pedagogical, for student engagement, assessment strategies.
- Financial.

Moreover, the area of institutional support plays a pivotal role. In (Nascimbeni et al., 2018), the authors mapped the openness and capacity of universities across all dimensions of open education, providing hints to raise the overall openness capacity of institutions' teaching staff.

To sum up, in the literature, the most used definitions focus on OER and collaborative practices to transform education, with many other details about pedagogy, stakeholders, institutions, curricula.

3. Research Questions and Methodology

How can a particular action be considered an OEP? This is the question that underlies this research in the framework of the Open Online Courses provided by start@unito.

More precisely, the research questions are the following:

RQ1. To what extent does the teaching and learning model develop with start@unito fall within the Open Educational Practices?

RQ2. What are the contribution and the impact of the start@unito OEPs on Higher Education in learning from students' perspective and the innovation of teaching practices from professors' point of view?

To answer RQ1, we will consider the ten dimensions of open education depicted in the OpenEdu Framework (Inamorato dos Santos et al., 2016). We selected this framework among others, because it's directly supported by European Commission through the Erasmus+ Programme: this choice could help us in targeting a compliance with the European strategies for open education. We shall look for features of start@unito that reveal the presence of elements related to the four transversal dimensions:

- Leadership
- Quality
- Strategy
- Technology

and to the six core dimensions:

- Access
- Collaboration
- Content
- Pedagogy
- Recognition
- Research

To investigate RQ2, we will provide the reader with quantitative data from platform usages, such as the number of users and resources. Moreover, we will delineate some qualitative remarks from open answers to various questionnaires submitted to students and teachers. On one side, students who complete an online course are forced to submit a questionnaire underlying strengths of their experience to obtain the certificate. We have answers from around 8000 students. The search for particularly relevant experiences was carried out looking for keywords in the text submitted by students. On the other side, teachers were interviewed during focus group activities and through a subsequent questionnaire. We collected answers from 47 teachers over 69 module leaders.

4. Adherence to Open Educational Practices

We answer RQ1 by discussing the various items related to OEP in the following subsections, according to the international OpenEdu Framework (Inamorato dos Santos et al., 2016). We will discuss the various strategies that have been adopted in start@unito according to the framework and we will provide an overall evaluation that covers all the 50 Open Online Courses, see Figure 2.

Figure 1 - The ten dimensions of Open Education as depicted in Inamorato dos Santos et al. (2016).

4.1 Transversal dimensions

In the OpenEdu Framework, the four transversal dimensions of open education (Leadership, Quality, Strategy, and Technology) provide the structure for realizing of the six core dimensions.

Leadership concerns the promotion of sustainable open education activities and initiatives by inspiring and empowering people. Strategies and activities are decided not only at the executive level (top-down). They also arise from the feedback provided by students and other participants (bottom-up) to guide future developments of open education at the institution in different strands. The same method was used to develop start@unito, which has its basis on institutional guidelines, provided by the Scientific Committee of the project after a cycle of meetings with teachers and students, to understand the needs and requirements. Module leaders have didactic autonomy and expert

guidance, with focus group meetings and feedback on the newly created content. The leadership in start@unito is transversal because it is based on different levels: personal motivation of the teachers who prepared the materials, organization of tasks coordinated by a group of digital education experts, cooperation between teachers, and management of results by the scientific committee.

Quality in open education refers to different aspects, such as efficacy, impact, availability, accuracy, and excellence, making the institution's offer more reliable and trustworthy for open learners. Quality evaluates if the purpose of the various dimensions is achieved and the extent of the achievement, considering transparency and ease-of-access. Different actors, such as the project leaders, learners, or external organizations and people, can measure quality. It can have a smaller or larger focus, from an institution's overall reputation to a particular OER. In the rest of the paper, when dealing with quality, we will provide a description of different strategies, whose presence or absence partially reflect on quality.

Strategy defines the values, the commitments, the opportunities, the resources, and the capabilities of a Higher Education institution for open education. The relationship between other aspects of the institution's policy should be clearly stated and developed by a strategy that can enhance and enrich the educational offer. With start@unito, the University of Torino has invested human and financial resources in favor of open education, declaring it a common value for the whole community. The commitment was made to take care of the platform as it represents an opportunity for training and a possibility of enriching the University's training offer for all students, especially the most disadvantaged, weaker, or simply distant ones.

Technology refers to infrastructures, platforms, and software to facilitate opening up education. Technology is necessary and plays an important role in validating authentication, assessing and managing large numbers, and granting the contents' continuous availability. The degree of technology openness directly measures the institution's openness culture, which should prefer interoperable systems with many platforms. It should allow learners to interact, upload, share, download, peer-review, and modify existing content. In start@unito, the openness was exploited by putting the open source LMS Moodle on servers based on the Linux platform at the core of the software architecture. All the other solutions were chosen based on their interoperability, which enabled us to develop custom solutions to find suitable solutions to the project's special needs.

4.2 Access

Access in open education is the removal of the barriers which obstruct the way to knowledge. Three levels denote the feature of Access in Higher Education: access to programs, access to courses, and access to educational content, which is in very close relation with the concept of Accessibility.

Start@unito provides full access to the course contents. On the other hand, administrative offices manage programs and courses, for which a cost for enrollment is due. Cost is one of the biggest barriers. From the learner's perspective, it cannot be avoided altogether. For example, the cost of internet connection or the time invested in studying: the lower the cost, the more open the access. Start@unito contains OER and provides contents without requesting any fee, so the cost is somehow shifted from the learners to professors, who dedicate time in preparing effective contents, and to the University, financially supported by foundations, that takes care of the costs of infrastructure, server, connection, and staff. Students are encouraged to give their feedback on digital content, thereby enhancing corrections and improved usefulness.

Access can be facilitated by adopting accessibility measures and adaptive contents that serve specific needs. Examples of accessibility measures are assistive technologies, like screen readers, that convert text-to-speech or screen magnifiers, responsive interfaces, readable fonts, and text. The Web Content Accessibility Guidelines (WCAG) recommend that content should be robust enough to be interpreted reliably by a wide variety of user agents. Textual descriptions or transcripts should accompany video and audio materials. Start@unito platform adopted a font called EasyReading, with high readability, suitable for students with dyslexia. Even though we have no performance measure about this topic, professors and content designers were trained on the various measures to adopt while developing the course, like proper color contrast, clear lexicon, readable documents, and web pages. Flexibility is essential for non-traditional learners who have more constraints.

Open education should not restrict entrance based on a minimum level of education, or country of residence, even though the prerequisites' assessment is important for the student to understand how much they are suited for the program. This is another aim of start@unito, which wants to help students recognize the right path. This action has been done in synergy with the Orient@mente project (Barana et al., 2017).

Open education content, courses, and programs should facilitate the interaction between learners and teachers or other learners to exchange ideas. The peer interaction is not provided by start@unito: at the moment, students can only contact the teacher of the module; the

scientific committee intends to use tutors to support learners in their alone or group activities in the future.

4.3 Content

The Content dimension in open education refers to teaching and learning materials, like textbooks, course materials, pictures, games, podcasts, video lectures, software, data, and research outputs in open access. Content can be openly licensed, in the public domain, or copyrighted, but should essentially be free and accessible.

In this context, start@unito uses and offers self-created OER also as a visibility mechanism to attract students and increase its reputation. Teachers and content designers explored different digital tools to create and make available meaningful content with appropriate granularity.

Few restrictions in the course structure were given. One of them was the presence of a minimal amount of video lessons, because the scientific committee recommends using audiovisual resources to enhance its content.

During content production, properly trained instructional designers supervised content designers to fulfil properly international standards and guidelines. Students can leave feedback on the course's different aspects when contents are delivered, guiding the renewal process (Marchisio & Sacchet, 2020).

After two years of activity, the different stakeholders plan to monitor the content to check if updates are needed. This process is planned to be repeated every 2 or 3 years, even though different courses require less or more updates: as an example, basic courses in Mathematics usually do not need updates of contents, but maybe changes from the point of view of didactics, while other courses, such as the ones in law, follow the updates of legislations. Module leaders are not allowed to edit content, which is a role that only belongs to the platform managers, to avoid any accidental generation of errors.

4.4 Pedagogy

Open pedagogy makes the range of teaching and learning practices more transparent, sharable, and visible. Open education emphasizes learners. The goal is to enhance the learning design's effectiveness and increase students' involvement, making pedagogical practices and learning descriptors visible, transparent, and accessible. Pedagogy should also enable learners to design their own learning path with a wide choice of learning resources.

Start@unito supports open learning, for which learners take the initiative and are responsible for their own learning processes. Learners decide what to study, select the most fitting learning resources with a self-paced approach, assess their learning outcomes at any time, in any place, and at any age. The only requirement is commitment and self-discipline.

Another pedagogical approach supported in start@unito is adaptive teaching. With technologies, more personalized teaching and learning can be carried out. The use of automatic formative assessment with immediate and interactive feedback has proven its effectiveness in different contexts (Barana et al., 2019). Moreover, future developments concern learning analytics to detect learners' online behavior and preferences. There is, however, a lack of other pedagogies, such as collaborative and networked learning, because of the self-paced educational strategy.

4.5 Recognition

Recognition in open education refers to issuing a certificate with a formal value and acknowledging and accepting credentials. Credentials should attest that the student achieved a set of learning outcomes. Recognition enables learners to complete a program more flexibly. Credentials can be issued in a variety of formal or informal ways, and the institution can choose whether to recognize them or not.

At the end of the online learning path, start@unito issues a non-formal certificate that students obtain after submitting a final unsupervised online test. Start@unito online courses are part of the educational offer of many degrees at the University of Torino. The non-formal certificate is mandatory to sit the exam, with which students can obtain formal recognition.

4.6 Collaboration

Collaboration facilitates the exchange of practices and resources to improve education around and through OEP. Collaboration promotes networks of individuals and institutions. Learners should be empowered to collaborate and connect with the institution to define a unique learning path to achieve their goals. Agreements should be supported for the development of OEP. Agreements can occur between individuals, intra-institutionally, inter-institutionally, nationally at the policy level, or cross-border.

In start@unito there is no collaboration between learners because of its self-paced approach. On the other side, start@unito promotes collaboration between different departments in the same institutions, with online courses offered in a larger number of programs. Moreover, some international students are allowed by specific agreements to attend start@unito courses without leaving their home university for a semester. Both universities accept and recognize certificates and credits.

4.7 Research

The relation between OEP and research relies on open access to data and research outputs and ways to broaden participation in research to advance science faster by sharing and collaborating. Researchers co-develop and become project participants and commentators on research ideas and progress because extended networks provide more expertise.

The literature referring to start@unito is increasing, and results and discussions are published as soon as the research is carried out. This happens because the leading scientific committee is composed of professors with different backgrounds and areas of expertise.

4.8 Summary

Figure 2 shows a summary of the evaluation of start@unito over the six core dimensions and through the four transversal dimensions. For the evaluation process, we used the grid provided by (Inamorato dos Santos et al., 2016) as a checklist. According to the following scale, there is a score for every core dimension: 0 means not achieved, 1 means partially achieved, 2 means largely achieved, 3 means fully achieved. On average, the result is largely achieved (Median 2, Average 1.95).

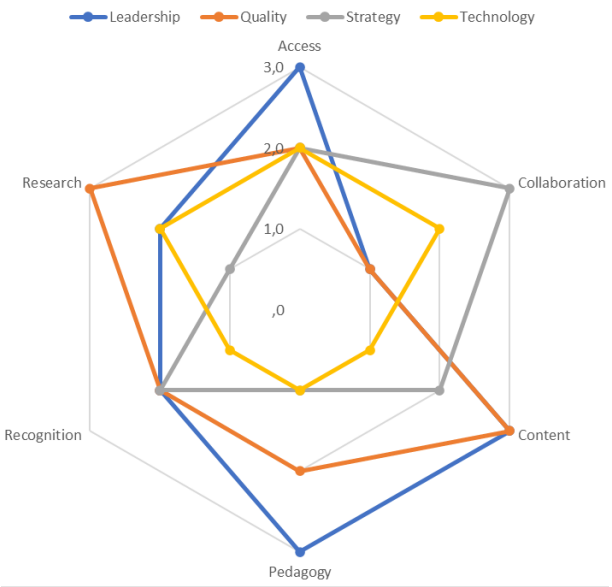

Figure 2 - The evaluation for start@unito of the 6 dimensions of Open Education according to the various transversal dimensions.

5. Analysis and discussion

In this section, we provide quantitative data about platform usage to give a weight of the contribution of start@unito OEPs, and qualitative data, which are mainly feedback from students and teachers, to evaluate the impact on learners and future university students. Examples of students' sentences are collected according to the following indicators: Usability, Self-awareness, Objectives, Kind of learners. These indicators were selected because of their importance in Open Education. Usability refers to the interaction between the users and the system, a topic for research and analysis. Self-awareness and Objectives help in understanding the perception from the students' point of view and in designing support activities. Kind of learners helps teachers and start@unito managers in profiling who uses the courses. According to the following topics, teachers' sentences are collected: Objectives, What teachers appreciate, During Covid-19. These topics were chosen because they were the most present in teachers' responses.

5.1 Platform data

Around 70 university professors dedicated time to preparing the online courses, together with around 50 postgraduate students. The platform currently hosts more than 37000 users (update December 14th, 2020), a number that comes from 2 years of activity. Half of the users, around 18500, made their first access after the start of the Covid-19 crisis in Italy. As showed in Figure 3 and Figure 4, the Covid-19 pandemic that arose in February 2020 generated a lot of activity and many new users because students could find online ready to use contents. From Figure 3 we can see the high amount of activity, which blew up in November 2020 with more than 270000 logins, a number composed both by new online students due to Covid-19 and by exam study. From Figure 4 we can highlight the large amount of new users in October and November 2020, mainly due by the start of the new academic year, numbers that are comparable to the one in March 2020, the start of the Covid-19 crisis. On the other side with respect to students, professors made large use of the newly prepared materials to switch to fully online teaching.

It is tough to accurately count the number of resources because teachers used them in different ways, sometimes embedding one into the other to maximize effectiveness. In 50 open online courses, there are more than 2000 file resources, more than 1200 videos, 1100 pages, almost 1000 tests, and other kinds of interactive content like conceptual maps, podcasts, components for the guided resolution of exercises, adaptive assignments.

Thus, the contribution to the usage of OEPs in the framework of start@unito is quite large.

5.2 Students feedback

At the end of the attended course, students were asked to indicate the strengths of the experience. Their answers help in the evaluation of the impact of

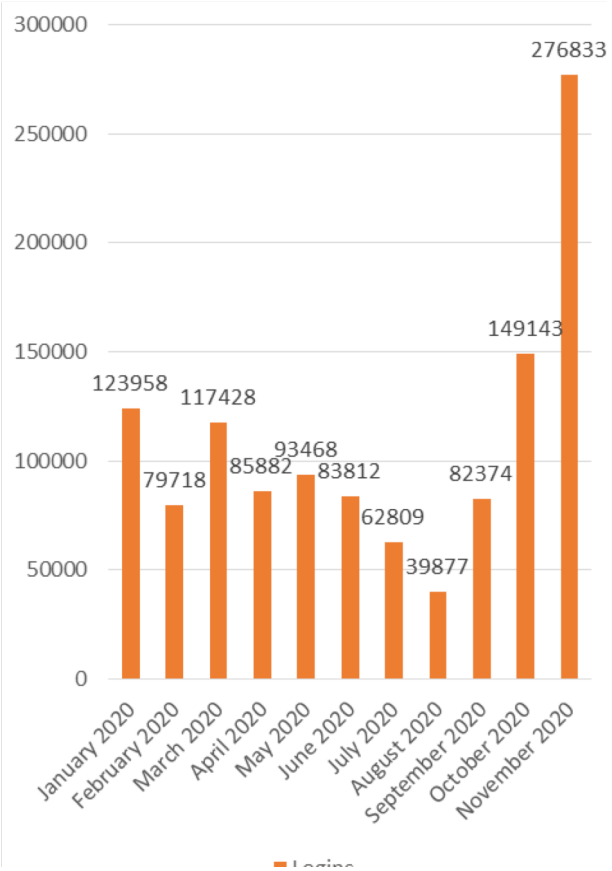

Figure 3 - Number of logins to the start@unito platform divided by month.

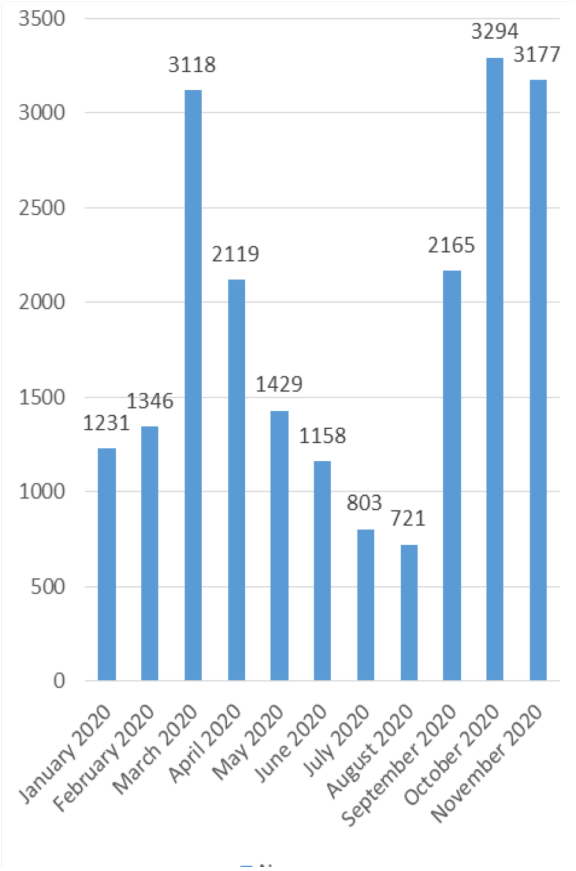

Figure 4 - Number of new users that subscribed to start@unito divided by months.

start@unito. Some examples of the numerous answers are reported here with comments.

Let us start with comments about USABILITY.

> *"For me who have a visual memory, it was very useful to have explanations through videos and images and not just documents of words and words. Thanks for thinking of us too!"*

Content designers were trained to pay attention to the multimedia principles for effective teaching. There are twelve principles listed in the Handbook of Multimedia Principles (Mayer, 2014) that provide very useful and practical guidelines on combining different channels such as images, narration, on-screen text, animations, and other media.

> *"The course was really well structured and well-finished, especially thanks to all the tools we have available such as videos and practice tests."*

The guidelines for content designers were more related to the pedagogical topics, while more freedom was left to the different tools that teachers could use. Thus, there could be some differences among different courses; however, all of them receive feedback by experts on digital education and the various tools. When decisions had to be made between different approaches, the module leader's autonomy was respected.

Now some comments about SELF-AWARENESS.

> *"Nice opportunity as it allows you to take an exam at a more intelligent time than scheduled, ease in finding the content you need and about which you have more doubts."*

This emphasizes the non-formal learning context, which takes place before students start any university program. The open education provided by start@unito allows students to get off the strict schedule of university lessons and to free to choose the best timing for themselves. In this feedback, the student emphasizes that the contents are easy to access and flexible to be watched and listened to often in case of doubts. Moreover, many teachers provided students with proper in-depth content, even external to the platform.

"Convenience in being able to follow the course from home also means greater concentration. Great way to test individual skills."

Attending from home or any other place makes education open, bringing the university into day to day life. This student emphasizes the ability to focus more on the topics when at home. A self-paced approach indeed requires good skills in time management. Good or excellent students can take more advantage. In contrast, students with more difficulties need more support, which is partially provided by adaptive teaching and interactive feedback from the platform, but sometimes this is not enough. Thus, to receive more personal support from the teachers, the university enrolled students can ask for meetings and make appointments with professors.

"Self-regulation of the amount of daily work, monitoring of the objectives achieved through the percentage next to it, self-assessment tests very useful because they allow testing what has been studied immediately, also giving possible importance to parts [that are usually studied] more superficially."

Students can monitor themselves with the completion progress, the grade book, and proper feedback while practicing formative assessment.

Now some comments about OBJECTIVES.

"The course allows you to understand if you are really interested in the subject, so it is an excellent orientation tool, also it already provides knowledge that will be deepened at the university."

Start@unito students are usually interested in enrolling in university. Thus, they need to understand if a certain program suits their attitude. Beyond this, students can attend a course that will be recognized in their university career plan.

"I appreciated the opportunity to prepare independently to take an exam in advance of the curricular timetable, thus moving forward with it and gaining precious time."

The chance to boost students' careers in advance is one of the main strengths of start@unito: openness means acceleration of learning, teaching, research.

Now some comments from different KINDS OF LEARNERS.

"As a worker, I appreciated the possibility of following the course according to the time available. Short but comprehensive videos, very clear in highlighting the main concepts."

Working students are a group of learners who need education to be open more than others. The more restrictions they have in other contexts, like working time, the more open and adaptive education should be.

"It is useful and precious, especially for those like me who cannot attend, to still have a course available, a very convenient way to be able to study."

There are many possible reasons why a student cannot attend classes. Online learning is not suited to all kinds of learners. There is a strong need for self-regulation. We do not know the percentage of university students who prefer these methodologies, but we are sure that it is good to allow students to choose the way of learning that best suits them.

5.4 Teachers Feedback

From the point of view of OBJECTIVES, teachers believe that start@unito is a tool that fulfills different purposes: it orientates students, it attracts students from other regions, it facilitates students in acquiring credits for master degrees, it allows forms of internationalization without mobility. In general, teachers' evaluation of the experience is very positive. After an initial time-consuming effort in content creation, teachers save time in the next semesters, also due to the facilitation in the management of exams. Moreover, teachers showed an improvement in their digital education skills.

Teachers appreciated the opportunity for students of different degree courses to get credits through the open online courses in different disciplines enriching their personal curricula. Start@unito is appreciated as an opportunity for all citizens to study topics of interest, with continuous availability. It is a stimulus for the teachers themselves: useful experimentation of new shared ways of teaching. Moreover, teachers were extremely grateful for the online content available during the lockdown.

During Covid-19 emergency, teachers used their online courses as integration, as a remedial path, as a review of topics, as a valid alternative of in-person classes, as a reference for synchronous online lessons, to replace part of exams with completion of the course, to summarize topics generally treated in a complex way. Many online topics were a starting point for organizing blended teaching, and teachers suggested that students take all the tests and guided exercises to better prepare for the exam.

6. Challenges and opportunities

This experience gives rise to some reflections, valid for all open practices.

Tutoring can facilitate collaborative learning between peers and peer evaluation and better support students:

for this reason, this is a planned activity for the future of start@unito.

Other challenges are provided by microcredentials, to offer students and professionals a chance to enrich their resume with specific topics and skills. Start@unito teachers can guide microcredential attendees with an open online course. In this direction, the creation of new Open Online Courses that cover new areas, such as the medical area, should make students more easily insert credits in different curricula (smaller micro credentials).

The higher the number of teachers, the greater the use and the quality of OER and OEP. This comes with a big effort in training. The University of Torino proposed seminars to give teachers extra tools, ready-to-use contents, and autonomy on open education matters. It is important to create networks to share materials, to facilitate access to students from disadvantaged regions closed to partner institutions. This does not just refer to Higher Education, but also to secondary school: it is important to ensure that the benefits of OEPs and their dissemination are increased in this setting, too.

7. Conclusions

Start@unito can be considered a positive experience, which makes education open. The commitment of the University of Torino in OER is increasing thanks to this experience. According to the description and adherence to the various dimensions, the start@unito model is close to the framework of OEP (RQ1). The large numbers of users and platform usage, the numerous comments and feedback received from students and teachers confirm the strong impact on university policies (RQ2). Moreover, this work suggests reflections for the future's educational policies, as depicted in Section 6. The usefulness and benefits of the experience both for students and teachers were highlighted during the Covid-19 pandemic. Teachers were able to continue the lessons and the students found materials available. The direct benefit concerns continuity of the teaching activity, it was not interrupted. Moreover, even those teachers who switched from in person classes to platform activity were able to monitor and intervene in support students with targeted synchronous moments.

A future improvement will be the expansion of start@unito offer with new courses and microcredential modules so that more university programs can take part in it. Moreover, after two years of operativity, it is important to improve the contents and the effectiveness of the teaching methodologies, integrate possible missing parts, update to the new standard and discoveries, cover all disciplinary areas, and provide microcertifications and more international courses, for example, courses that are completely held in English.

The international benchmark is coming closer, with agreements between universities to let their students attend start@unito online courses. The recent consortium UNITA - Universitas Montium between the University of Torino and other European universities promotes the interaction between institutions. Opening up education is a common goal and a useful method to collaborate. Open Education also means international education.

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