THE MANY FACES OF OPENNESS IN EDUCATION

Anastasios A. Economides[1], Maria A. Perifanou[2]

[1]*Information Systems IPPS, University of Macedonia (GREECE)*
[2]*SMILE lab, University of Macedonia (GREECE)*

Abstract

This paper argues that Openness in Education has multiple meanings (interpretations). Next, it defines and describes eleven meanings of Openness in Education. Finally, it evaluates the Openness as Diversity (one of these eleven meanings) of ten Language Massive Open Online Courses (MOOCs). The results reveal that these MOOCs provide limited Openness as Diversity.

Keywords: Autonomy, Freedom, Non-Discrimination, Open Education, Open Educational Resources, OERs, Massive Open Online Courses, MOOCs, Transparency.

1 INTRODUCTION

Generally, Openness in Education refers to open entry and easier access to study [1], [2]. This definition has been extended to also cover free access and choice of high quality educational content, resources, tools, and practices which can be fully used, shared and adapted without any legal, financial, and technical restrictions [3], [4]. The Cape Town Open Education Declaration also includes open technologies that facilitate collaborative and flexible learning, the open sharing of teaching practices and new approaches to assessment, accreditation and collaborative learning [5]. Similarly, The Open Education Consortium emphasizes the open sharing [6]. In addition, European Commission supports Open Education in order to widen access and participation to everyone by removing barriers and making learning accessible, abundant, and customizable for all [7]. It offers multiple ways of teaching and learning, building and sharing knowledge. Furthermore, Open Education provides a variety of access routes to formal and non-formal education, and connects the two. In January 2018, the European Commission adopted a Digital Education Action Plan which includes 11 initiatives to support technology-use and digital competence development in education [8]. Opening classrooms, real-life experiences and projects, new learning tools, materials and open educational resources as well as online collaboration can empower learners. Access to and the use of digital technologies can help reduce the learning gap between students from high and low socioeconomic backgrounds. Personalized teaching can result in increased motivation by focusing on individual learner's needs. Open Education enables free access and participation for all in a flexible and personalized way at a lower or nearly no cost [9]. It can also reduce or even remove barriers (e.g. cost, geography, time, entry requirements). In open education each and every individual, anytime, can openly access content, courses, support, assessment and certification in ways that are flexible and accommodate diverse needs.

However, the term "Openness" has been used in multiple ways causing confusion on what it really means. Economides and Perifanou [10] defined Openness in MOOCs as the degree to which the particular MOOC could provide free access to, participation in, interaction, use, creation and sharing (distribution, delivery) of free information, knowledge, competences, skills, resources (e.g. hardware, software, networking, power), outcomes, artifacts, communications and collaborations with other people without restrictions anywhere anytime in order to achieve a specific educational goal. Cronin [11] gave four broad interpretations of openness within the context of higher education: open admission, open as free, open educational resources (OERs), and open educational practices (OEPs). Open admission to formal education refers to elimination of entry requirements for institution-based learning. Openness in OER is focused on freedom to Retain, Reuse, Revise, Remix, and Redistribute educational resources [12]. OER refers to any teaching, learning and research materials that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution with no or limited restrictions. While offering education systems a greater flexibility to use, share and adapt quality resources, OERs rest within the framework of intellectual property rights and fully acknowledge authorship. The 2017 Ljubljana OER Action Plan provides recommendations to stakeholders in five strategic areas, namely: building the capacity of users to find, re-use, create and share OER; language and cultural issues; ensuring inclusive and

equitable access to quality OER; developing sustainability models; and developing supportive policy environments [13].

OEPs are collaborative practices that include the creation, use, and reuse of OERs, as well as pedagogical practices employing participatory technologies and social networks for interaction, peer-learning, knowledge creation, and empowerment of learners [11]. The OEP shifts the focus from resources to practices, with learners and teachers sharing the processes of knowledge creation [14]. Pomerantz et al. [15] proposed seven meanings of Openness: Open means rights; Open means access; Open means use; Open means transparent; Open means participatory; Open means enabling openness; Open means philosophically aligned with open principles. Hug [16] described openness as without barriers; allowing for passage; broad-minded; free permeable. Finally, Economides and Perifanou [17] proposed the OPEN FASUCICESA- CPT Framework in order to describe the Openness of MOOCs and OERS. This framework describes ten Openness Capabilities (Find, Access, Store, Use, Create, Interact, Collaborate, Evaluate, Share, Abandon) performed on Subjects (MOOC or OER; Infrastructure; People; Educational Institution) plus the Cost, Place and Time dimensions.

2 OPEN EDUCATION MEANINGS

In this paper we argue that Openness in Education has multiple meanings (interpretations). Next, we propose and define eleven such versatile meanings of Openness in Education:

1   Openness as Freedom of Acting;

2   Openness as Non-Discrimination, Inclusiveness and Accessibility;

3   Openness as Freedom and Absence of Requirements, Constraints (Restrictions, Barriers, Obstacles), Negative Consequences (Losses), and Risks (Dangers);

4   Openness as Transparency (Diaphanousness, Disclosure of information, Visibility, Clearly Exposure), Right to know, and Awareness of;

5   Openness as Diversity, Variety of Choices, Options and Alternatives;

6   Openness as Autonomy (Agency, Control), Self-Determination (Self-Direction, Self-Regulation), and Personalization;

7   Openness as Adaptability and Flexibility;

8   Openness as Easiness;

9   Openness as Quality;

10 Openness as Tolerance, Respect and Acceptance;

11 Openness as Opportunities.

In the following discussion, we consider that the freedom of a participant in Open Education does not restrict the freedom of the others. In other words, his/her freedom is not at the expense of the others or his/her freedom ends where others' freedom begins. Also, we use the terminology defined in [17] to describe various terms (e.g. Educational Object, Participant, Infrastructure, Educational Institute). Furthermore, a MOOC or an OER is composed from Educational Objects (e.g. content, teaching, communications, activities, assessments) plus Policies (pricing, scheduling, grading, certification etc.) and Interaction Modes.

2.1 Openness as Freedom of Acting

Openness in Education is defined as the degree to which Education would provide free access to, participation in, interaction, use, creation and sharing of *Free Acting* OERs, Participants, Infrastructure and Educational Institute for all at no cost, anywhere and anytime in order to achieve a specified educational goal. Next, we define the term Act to include any of the following: Seek, Find (Discover), Select (Choose), Access (Watch, Read, Listen), Acquire (Get, Receive), Associate (Relate), Communicate, Collaborate (Cooperate), Control (Manage), Create (Develop, Produce, Perform, Design, Construct), Share (Teach, Distribute, Show, Present, Advise, Recommend), Evaluate (Assess, Rank) etc. Thus, such an *Open and Free Acting Education* supports, facilitates and promotes the following:

- *Open and Free Acting Educational Resource* that can freely Act on: i) other OERs (e.g. the OER gets learners' data from another OER), ii) Participants (e.g. the OER automatically selects

learners to form a team), iii) Infrastructure (e.g. the OER stores data on cloud), and iv) Educational Institute (e.g. the OER shares learners' performance data with the Educational Institute) anywhere anytime according to the requirements;

- *Open and Free Acting Participant* who can freely Act on: i) OERs (e.g. he modifies an OER), ii) other Participants (e.g. he communicates with teachers and peers), iii) Infrastructure (he accesses the platform), and iv) Educational Institute (e.g. he evaluates the services of the Educational Institute) anywhere anytime according to the requirements;

- *Open and Free Acting Infrastructure* that can freely Act on: i) OERs (e.g. the platform controls an OER), ii) Participants (e.g. the platform manages learners), iii) other Infrastructure (e.g. the platform communicates with participants' devices), and iv) Educational Institute (e.g. the platform shares usage data with the Educational Institute) anywhere anytime according to the requirements;

- *Open and Free Acting Educational Institute* that can freely Act on: i) OERs (e.g. it shares learners' profiles with an OER), ii) Participants (e.g. it manages teachers and learners), iii) Infrastructure (e.g. it manages hardware), iv) other Educational Institutes (e.g. it shares learners' certificates with other Educational Institutes) anywhere anytime according to the requirements.

2.2 Openness as Non-Discrimination, Inclusiveness and Accessibility

Openness in Education is defined as the degree to which Education would provide non-discriminating access to, participation in, interaction, use, creation and sharing of *Non-Discriminating, Inclusive and Accessible* OERs, Participants, Infrastructure and Educational Institute for all at no cost, anywhere and anytime in order to achieve a specified educational goal. For example, it does not discriminate learners regarding their gender, language, nationality, racial or ethnic origin, religion or belief, disability, social or economic status, migration status, or residence. Thus, such an *Open, Non-Discriminating, Inclusive and Accessible Education* supports, facilitates and promotes the following:

- *Open, Non-Discriminating, Inclusive and Accessible Educational Resource* that does not discriminate any: i) other OER when interacting with it (e.g. irrespectively of its language), ii) Participant (e.g. irrespectively of his/her disability), iii) Infrastructure (e.g. irrespectively of its operating system), and iv) Educational Institute (e.g. irrespectively of its reputation or economic status) anywhere anytime according to the requirements. For example, a Participant speaking Italian using an Android mobile device travelling in a train (using Wi-Fi and/or 5G) late in night could access and use of the specific OER which also interacts with another OER written in German;

- *Open, Non-Discriminating, Inclusive and Accessible Participant* who does not discriminate any: i) OER (e.g. presenting a different religion), ii) other Participants (e.g. other nationality), iii) Infrastructure (e.g. irrespectively of its operating system), and iv) Educational Institute (e.g. irrespectively of its origin country) anywhere anytime according to the requirements. For example, an educator teaches an OER in a language different than his mother tongue, communicates, assesses and supports all learners the same irrespectively of their age, culture, and experiences as well as their devices (e.g. smartphones, laptops, workstations) at a remote place (low bandwidth connection) or at the city center (high bandwidth connection) during the morning or at night;

- *Open, Non-Discriminating, Inclusive and Accessible Infrastructure* that does not discriminate any: i) OER (e.g. a platform does not discriminate OERs based on their required bandwidth), ii) Participant (e.g. a platform does not discriminate a participant according to of his/her residence), iii) other Infrastructure (e.g. a platform communicate with other devices irrespectively of their communication and networking protocols), and iv) Educational Institute (e.g. a platform serves an Educational Institute irrespectively of its legal status) anywhere anytime according to the requirements. For example, a MOOC platform does not promote a specific MOOC against other MOOCs (e.g. purposely show it fist on a list of search results); or it does not discriminate participants allocating different bandwidth to each one of them.

- *Open, Non-Discriminating, Inclusive and Accessible Educational Institute* that does not discriminate any: i) OER (e.g. irrespectively of its pedagogical strategy), ii) Participant (e.g. irrespectively of his/her gender), iii) Infrastructure (e.g. irrespectively of the hardware manufacturer or the networking software), and iv) other Educational Institutes (e.g.

irrespectively of its residence) anywhere anytime according to the requirements. For example, an Institute supports and promotes any MOOC irrespectively from its pedagogical and assessment methods, the teachers' gender and experience, as well the learners' language and devices.

Extending the notion of Discrimination to not only treat participants equally but also according to the Participant's profile (e.g. needs, goals, strengths, weaknesses), we have *Openness as Personalization.*

2.3 Openness as Freedom and Absence of Requirements, Constraints (Restrictions, Barriers, Obstacles), Negative Consequences (Losses), and Risks (Dangers)

Openness in Education is defined as the degree to which Education would provide unrestricted access to, participation in, interaction, use, creation and sharing *without any Requirements, Constraints, Negative Consequences and Risks* OERs, Participants, Infrastructure and Educational Institute for all without cost, place and time constraints in order to achieve a specified educational goal. Thus, such an *Open and Free from Requirements, Constraints, Negative Consequences, and Risks Education* supports, facilitates and promotes the following:

- *Open and Free from Constraints Educational Resource* that is free from constraints on: i) the OER itself and other interacting OERs, ii) Participants, iii) Infrastructure, and iv) Educational Institute anywhere anytime according to the requirements. For example, an OER can communicate with any other OERs in different languages, and does not require specific Participants' Profile (e.g. experience, advanced computer knowledge), specific Infrastructure (e.g. specific operating system), specific schedules and deadlines, specific locations to perform activities. Also, OERs are free from risks such as inappropriate educational design, inappropriate content (e.g. low quality, biased, non-objective, difficult, confusing, low motivation), plagiarism, cheating, testing leaks;

- *Open and Free from Constraints Participant* who is free from requirements on: i) OERs (e.g. limited access to an OER and inability to modify it), ii) the Participant himself and other Participants (e.g. restricted communication to specific teachers or specific peers during restricted times; revenge), iii) Infrastructure (e.g. devices with specific operating system), and iv) Educational Institute (e.g. specific accreditation is available) anywhere and anytime according to the requirements. Also, Participants are free from risks such as an unfair treatment, inequality, fear for their current and future state (i.e. professional, social, economic, physical, mental, emotional health and integrity), cognitive overload, interference, censorship, reputation threat, impersonation, forgery, privacy leak, personal data breach (leading to the accidental or unlawful destruction, loss, alteration, unauthorized disclosure of, or access to, personal data transmitted, stored or otherwise processed), theft, fraud, useless certificates, hostile peers, bullying, negative emotions (e.g. anxiety, stress, frustration, pressure, isolation, helpless), fines, penalties and obligations (e.g. need to buy a certificate), certificates cancellation or withdrawal;

- *Open and Free from Constraints Infrastructure* (e.g. platform, device) that is free from constraints on: i) OERs (e.g. specific interface requirement or communication mode), ii) Participants (e.g. required extra software to install), iii) the Infrastructure itself and other Infrastructure (e.g. platform with limited compatibility and compliance), and iv) Educational Institute anywhere anytime according to the requirements. Also, Infrastructure is free from Risks such as Security problems, Not enough resources (processing, memory, networking, power etc.), Incompatibility, Withdrawal, Obsolescence;

- *Open and Free from Constraints Educational Institute* that is free from constraints on: i) OERs (e.g. require specific ideology), ii) Participants (e.g. age requirements; admission fees; need to buy extra educational resources, hardware, software, or services, watch advertisements, give personal information, buy the certificate), iii) Infrastructure, and iv) Educational Institute itself and others (e.g. legal constraints) anywhere anytime according to the requirements. Also, the Educational Institute is free from risks such as bankruptcy, quality downgrading, losing accreditation, unstable taxation and economy.

2.4 Openness as Transparency (Diaphanousness, Disclosure of information, Visibility, Exposure), Right to know, and Awareness of

Openness in Education is defined as the degree to which Education would provide transparent access to, participation in, interaction, use, creation and sharing of *Transparent and Aware* OERs, Participants, Infrastructure and Educational Institute for all at no cost, anywhere and anytime in order to achieve a specified educational goal. Thus, such an *Open, Transparent and Aware Education* supports, facilitates and promotes the following:

- *Open, Transparent and Aware Educational Resource* that can be Transparent to and Aware of: i) other OERs, ii) Participants, iii) Infrastructure, and iv) Educational Institute anywhere anytime according to the requirements;

- *Open, Transparent and Aware Participant* who can be Transparent to and Aware of: i) OERs, ii) himself and other Participants, iii) Infrastructure, and iv) Educational Institute anywhere anytime according to the requirements. For example, a participant knows his personal and others' profiles, behaviors and current states (e.g. what is measured, stored, transmitted; algorithms that process these data; decisions taken; the outcomes/results of these decisions);

- *Open, Transparent and Aware Infrastructure* that can be Transparent to and Aware of: i) OERs, ii) Participants, iii) other Infrastructure, and iv) Educational Institute anywhere anytime according to the requirements;

- *Open, Transparent and Aware Educational Institute* that can be Transparent to and Aware of: i) OERs, ii) Participants, iii) Infrastructure, iv) itself and other Educational Institutes anywhere anytime according to the requirements.

For example, Open, Transparent and Aware Education supports transparent learners' grading policy in an OER, transparent communications among participants, transparent participants' data measurement and usage, transparent employees' recruitment, transparent economics of an Educational Institute. However, these data transparency should not override the Participants' Right to Privacy as well as the Data Confidentiality. This means that OERs, Participants, Infrastructure and Educational Institute should retain the ability to choose which data can be accessed by others, and to control the extent, manner and timing of the use of those data chosen for disclosure.

2.5 Openness as Diversity, Variety of Choices, Options and Alternatives

Openness in Education is defined as the degree to which Education would provide diverse access to, participation in, interaction, use, creation and sharing of *Diverse* OERs, Participants, Infrastructure and Educational Institute for all in diverse places and times in order to achieve a specified educational goal. Thus, such an *Open, and Diverse Education* supports, facilitates and promotes the following:

- *Open and Diverse Educational Resources* that are offered in a variety of alternative types (e.g. variety of Learning Paths, Assignments, Assessment types, Feedback, Interaction Modes, Multimedia, Schedules & Deadlines). For example, a learner can choose among various types of assessment (e.g. multiple choice questions, fill-in questions, oral question-answering, oral presentation, essay writing, portfolios, project);

- *Open and Diverse Participants* who can interact, communicate and collaborate with many diverse participants. For example, a learner can choose among various types of teachers (e.g. variety of teaching methodologies, expertise), co-learners (e.g. variety of personality types, ages, experiences, expertise, behavior, communication style), teams etc.;

- *Open and Diverse Infrastructure* that can support many alternative types of hardware, software and networking. For example, it can support various operating systems (e.g. Android, Windows, Mac, Linux), various multimedia formats, various networking connections (e.g. Bluetooth, Wi-Fi, 5G);

- *Open and Diverse Educational Institute* that can offer many diverse courses, at various disciplines (subjects), at various levels (e.g. primary, secondary, tertiary, vocational education), various certification types, etc.

2.6 Openness as Autonomy (Agency, Control), Self-Determination (Self-Direction, Self-Regulation), and Personalization

Openness in Education is defined as the degree to which Education would provide autonomous access to, participation in, interaction, use, creation and sharing of *Autonomous and Self-Determined* OERs, Participants, Infrastructure and Educational Institute for all anywhere anytime in order to achieve a specified educational goal. Thus, such an *Open, Autonomous and Self-Determined* Education supports, facilitates and promotes the following:

- *Open, Autonomous and Self-Determined Educational Resource* that can autonomously select, decide, act and control: i) other OERs to interact, ii) the Participants, iii) the Infrastructure, and iv) the Educational Institute anywhere anytime according to the requirements. For example, an OER autonomously assigns learners to groups, selects other OERs to interact, decides which data to communicate to the Educational Institute;

- *Open, Autonomous and Self-Determined Participant* who can autonomously select, decide, act and control: i) the OERs, ii) other Participants to interact, communicate and collaborate, iii) the Infrastructure, iv) the Educational Institute anywhere anytime according to the requirements. For example, a Learner autonomously selects a specific teacher or tutor, a specific learning path, a specific assessment type, a specific time to spend on each assessment item, a specific deadline to submit an assignment, a specific place to perform an activity, a specific team to join and specific peers to collaborate;

- *Open, Autonomous and Self-Determined Infrastructure* that can autonomously select, decide, act and control: i) the OERs, ii) the Participants, iii) other Infrastructure to interact, and iv) the Educational Institute anywhere anytime according to the requirements. For example, a platform autonomously decides to access a specific database via a specific network;

- *Open, Autonomous and Self-Determined Educational Institute* that can autonomously select, decide, act and control: i) the OERs, ii) the Participants, iii) the Infrastructure, and iv) other Educational Institute anywhere anytime according to the requirements. For example, an Educational Institute decides which educational programs to launch, which staff to hire, what certificates to provide, etc.

Personalization happens when these selections are tailored to the Participant's characteristics.

2.7 Openness as Adaptability and Flexibility

Openness in Education is defined as the degree to which Education would provide adaptable access to, participation in, interaction, use, creation and sharing of *Adaptable and Flexible* OERs, Participants, Infrastructure and Educational Institute for all at no cost, anywhere and anytime in order to achieve a specified educational goal. Thus, such an *Open, Adaptable and Flexible Education* supports, facilitates and promotes the following:

- *Open, Adaptable and Flexible Educational Resource* that can adapt or be adapted to: i) other interacting OERs, ii) the Participants, iii) the Infrastructure, and the iv) the Educational Institute anywhere and anytime according to the requirements. For example, an OER adapts its difficulty level to the learner's expertise and performance;

- *Open, Adaptable and Flexible Participant* who can adapt to: i) the OERs, ii) other Participants to interact, communicate and collaborate, iii) the Infrastructure, iv) the Educational Institute anywhere anytime according to the requirements. For example, a Learner adapts his/her behavior to other participants with whom he/she collaborates;

- *Open, Adaptable and Flexible Infrastructure* that can adapt or be adapted to: i) the OERs, ii) the Participants, iii) other Infrastructure to interact, and iv) Educational Institute anywhere anytime according to the requirements. For example, a platform adapts the sending traffic to a mobile device according to the networking bandwidth and the device's capabilities;

- *Open, Adaptable and Flexible Educational Institute* that can adapt or be adapted to: i) the OERs, ii) the Participants, iii) the Infrastructure, iv) other Educational Institutes anywhere anytime according to the requirements. For example, an Educational Institute adapts its policies to other Educational Institutes.

Personalization happens when these adaptations are tailored to the Participant's characteristics.

2.8 Openness as Easiness

Openness in Education is defined as the degree to which Education would provide *easy (simple, clear, without much physical, cognitive or emotional effort)* access to, participation in, interaction, use, creation and sharing of OERs, Participants, Infrastructure and Educational Institute for all at no cost, anywhere and anytime in order to achieve a specified educational goal. Thus, such an *Open and Ease Education* supports, facilitates and promotes the following:

- *Open and Easy Educational Resources* that are easy to find, access, interact, learn, remember, use, create, share etc.;

- *Open and Easy Participants* who are easy to find, access, interact, communicate, cooperate, collaborate, co-create etc.;

- *Open and Easy Infrastructure* that is easy to find, access, interact, learn, remember, use, create, share etc.;

- *Open and Easy Educational Institute* is easy to find, access, interact (e.g. ease to solve administrative issues, low bureaucracy), learn, remember, use, etc.

2.9 Openness as Quality

Openness in Education is defined as the degree to which Education would provide qualitative access to, participation in, interaction, use, creation and sharing of *Quality* OERs, Participants, Infrastructure and Educational Institute for all at no cost, anywhere and anytime in order to achieve a specified educational goal. Thus, such an *Open and Quality Education* supports, facilitates and promotes:

- *Open and Quality Educational Resources* that are useful, appropriate & relevant, clear & understandable, interesting & engaged, easy-to-use, accurate (correct) & objective, current (updated), well-organized, etc.;

- *Open and Quality Participants* who are highly qualified, open, cooperative, empathetic, supportive, skillful, hardworking, self-disciplined etc.;

- *Open and Quality Infrastructure* that provides interoperability, high availability, high speed processing and transmission, low latency, large storage space, high quality interaction modes and media, high security, etc.;

- *Open and Quality Educational Institute* that provides prestige, established brand name, reputable certificate, reputable teaching and research staff, longevity, satisfied learners, alumni, teachers and staff, high salaried alumni, successful job placements, low bureaucracy, low fees, etc.

2.10 Openness as Tolerance, Respect and Acceptance

Openness in Education is defined as the degree to which Education would provide free access to, participation in, interaction, use, creation and sharing of *Tolerant* OERs, Participants, Infrastructure and Educational Institute for all at no cost, anywhere and anytime in order to achieve a specified educational goal. Thus, such an *Open and Tolerant Education* supports, facilitates and promotes:

- *Open and Tolerant Educational Resource* that tolerates opposed and controversial: i) other OERs, ii) Participants, iii) Infrastructure, and iv) Educational Institute. For example, an OER tolerates and accepts input data from another OER with opposed ideas and unusual assessments, accepts the extraordinary responses of a participant and tolerates extreme networking delays;

- *Open and Tolerant Participant* who tolerates opposed and controversial: i) OERs, ii) other Participants, iii) Infrastructure, and iv) Educational Institute. For example, a Learner accepts OERs promoting radical and controversial theories; respects and collaborates with other Participants who have different ideas and opinions from his/her own; accepts innovative infrastructure and abnormal situations; and accepts Educational Institutes with innovative business models, educational policies and novel certifications. A teacher tolerates negative reviews and respects participants with unusual and extreme behavior;

- *Open and Tolerant Infrastructure* that tolerates extreme and unusual: i) OERs, ii) Participants, iii) other Infrastructure, and iv) Educational Institute. For example, a platform supports OERs

that use novel technologies (e.g. immersive and augmented reality) and tolerates extreme and abnormal situations (e.g. heavy traffic, exemption faults, security attacks);

- *Open and Tolerant Educational Institute* that tolerates opposed and controversial: i) OERs, ii) Participants, iii) Infrastructure, and iv) other Educational Institutes. For example, it collaborates with Educational Institutes of different ideology, pedagogical strategies and educational policies.

2.11 Openness as Opportunities

Openness in Education is defined as the degree to which Education would provide free access to, participation in, interaction, use, creation and sharing of *Opportunities-enabling* OERs, Participants, Infrastructure and Educational Institute for all at no cost, anywhere and anytime in order to achieve a specified educational goal. Thus, such an *Open and Opportunities-enabling Education* supports, facilitates and promotes the following:

- *Open and Opportunities-enabling Educational Resource* that enables opportunities to: i) other OERs, ii) Participants; iii) Infrastructure, and iv) Educational Institute. For example, a high quality innovative OER (e.g. MOOC on Internet of Things) enables another OER (e.g. on smart cities) to be integrated into its learning path; enhances the participants' employability; and enhances the reputation of its supporting Educational Institute;

- *Open and Opportunities-enabling Participant* that enables opportunities to: i) OERs, ii) other Participants, iii) Infrastructure, and iv) Educational Institute. For example, a charismatic teacher upgrades an OER with novel pedagogy; enables his students to expand or change their views about the world and the life. Participants develop close relations among themselves enabling them to upgrade their employment status and develop business agreements;

- *Open and Opportunities-enabling Infrastructure* that enables opportunities to: i) OERs, ii) Participants, iii) other Infrastructure, and iv) Educational Institute. For example, an advanced platform enables an augmented reality -based OER to collaborate with an immersion reality – based OER; enables a massive number of learners to participate in an augmented location-based educational game and develop cultural awareness and mutual understanding;

- *Open and Opportunities-enabling Educational Institute* that enables opportunities to: i) OERs, ii) Participants, iii) Infrastructure, iv) other Educational Institutes. For example, a reputable Educational Institute offers prestige certifications that create employment opportunities; it also develops close cooperation tights with other Educational Institutes by sharing OERs, good practices, data and other resources.

3 INITIAL EVALUATION

In order to examine one of the proposed meanings of Openness, this paper developed a questionnaire to evaluate the Openness as Diversity of a MOOC (Table 1). Due to space limitations, other questionnaires regarding other meanings of Openness will be presented in a future paper.

Table 1. Openness as a MOOC's Diversity, Variety of Choices, Options and Alternatives.

Variety of Choices of	Not Available	Low	Medium	High
Educational Resources				
Learning Paths				
Assignments				
Assessment types				
Interaction modes				
Multimedia				
Schedules & Deadlines				
Feedback types				
Infrastructure				
Co-Learners				
Teachers & Tutors				

More concretely, we have evaluated ten (10) Language MOOCs based on the proposed questionnaire aiming at checking their level of Openness as Diversity. In order to identify different MOOC providers which offered Language MOOCs we have used the following list of MOOC aggregators and search engines: 1) MOOClist, 2) Class central, 3) Coursade.com, 4) My education path 5) Oeru OpenupEd, 6) My-MOOC, 7) MOOCSE, and 8) CourseTalk.

We have finally chosen the following ten (10) Language MOOCs which offer Spanish, Italian, and English courses offered by several institutions and supported by a variety of providers:

1   Basic Spanish 1: Getting Started offered by the Polytechnic of Valencia and supported by the MOOC provider *edx*.

2   "Learning Spanish in Paradise" offered by the Pontificia Universidad Javeriana and supported by the MOOC provider *edx*.

3   "Spanish for Beginners" offered by the Distance University of Madrid (UDIMA) and supported by the MOOC provider *iversity*.

4   "Introduction to Italian" offered by the University of Siena and supported by the MOOC provider *Canvas.*

5   "Italian for Beginners 3: My Daily Life" offered by the Open University and supported by the MOOC provider *Futurelearn*.

6   "Italian language and culture - beginner" offered by the Wellesley College and supported by the MOOC provider *edx.*

7   "Italian for Beginners 5: Time To Travel" offered by the Open University and supported by the MOOC provider *Futurelearn.*

8   "English for Absolute Beginners-Adults and Children" offered by Dr. Raymond Connors and supported by the MOOC provider *Udemy.*

9   "Benvenuti in Italia! Orientarsi con l'italiano" offered by the Polytechnic of Milan and supported by the MOOC provider *Futurelearn.*

10   "English for the Workplace" offered by the British Council and supported by the MOOC provider *Futurelearn.*

The results reveal that these MOOCs provide limited Openness as Diversity. Most of the evaluated MOOCs do not offer many possibilities to learners to create their own learning paths by choosing the educational resources or the assessment of their preferences. Furthermore, none of these courses give the opportunity to learners to choose their co-learners or their tutor. The course interaction is also limited to a discussion board or a forum and the feedback to assignments is mostly automated and it is not done by peers or tutor. Finally, the accessibility to the evaluated courses depends mostly on the selected providers, which in this case, most of them lack of supporting various operating systems or multimedia formats.

4   CONCLUSIONS

This paper first explicitly described eleven meanings (interpretations) of Openness in Education: *Openness as* 1) *Freedom in Acting*; 2) *Non-Discrimination*; 3) *Absence of Requirements and Negative Consequences;* 4) *Transparency and Awareness*; 5) *Diversity*; 6) *Autonomy*; 7) *Adaptability*; 8) *Easiness*; 9) *Quality*; 10) *Tolerance*; and 11) *Opportunities*. Then, it proposed a questionnaire in order to evaluate a list of Language MOOCs with the aim to check only one dimension: their level of Openness as Diversity. The Initial evaluation results have shown that the level of this dimension is a quite low.

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