

# ARTICULATE: A European glossary of terms used in oral health professional education

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## Abstract

**Introduction:** The Erasmus+O-Health-EDU project aims to gain a comprehensive view of oral health professional (OHP) education in Europe, through the development of web-based surveys and online toolkits. A glossary to facilitate a common language through which academic teams could cooperate and communicate more accurately was identified as a key need within the project. The aim of ARTICULATE was thus to create a shared language, with a European focus, for terms and concepts used in the field of OHP education.

**Methods:** The methodology was developed from those published for construction of other glossaries with a circular and iterative process: the creation of content and definitions by a group of experts in OHP education, the testing of “fitness for purpose” of the content, and stakeholder consultation. All creation steps were followed by refinements based on testing results and stakeholder comments. The final glossary was then launched as an online resource including a built-in mechanism for user feedback.

**Results:** The scope and structure of the glossary were mapped out at a workshop with 12 dental education experts from 7 European countries. A total of 328 terms were identified, of which 171 were finally included in ARTICULATE. After piloting with a close group of other colleagues, the glossary was opened for external input. Thirty European Deans or Heads of Education assessed the definition of each term as “clear” or “not clear.” A total of 86 definitions were described as “clear” by all individuals. Terms deemed unclear by at least one individual were revisited and changes made to 37 of the definitions. In conjunction with the launch of the glossary, a range of stakeholder organisations were informed and asked to participate in an open global consultation by providing feedback online. Since its launch in June 2021, the ARTICULATE website (<https://o-health-edu.org/articulate>) has had an average of 500 visits/month. To promote community ownership, forms embedded on the ARTICULATE webpage allow users to give feedback and suggest new terms. A standing taskforce will meet regularly to consider amendments and make changes to ensure that the glossary remains a relevant and up-to-date resource over time.

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**Conclusion:** ARTICULATE is a unique, evolving, online glossary of terms relating to OHP education, created as a resource for all interested OHP educators. The glossary is a key output of the O-Health-Edu project, which relies on a comprehensive vision of OHP education to address the future oral health needs of the European population.

**KEYWORDS**

dictionary, Europe, lexicon, oral health, professional education, terminology

## 1 | INTRODUCTION

Across Europe, the oral health of the population shows a high degree of variation within and between countries, related not only to national health care systems but also socio-environmental determinants of health. In view of the complexity of the determinants of health, a well-prepared and adaptable oral healthcare workforce is critical in meeting the current and future needs of the population. Education is a key factor in ensuring that professionals engaged in the provision of oral healthcare have the skills and knowledge required to provide optimal (safe and high quality) care. Across Europe and beyond, a range of professionals including dentists, dental hygienists, dental therapists, dental nurses and clinical dental technicians are involved in different aspects of the provision of oral healthcare and may be referred to as oral health professionals (OHPs). They can be considered more broadly as being “All professionals engaged in actions whose primary intent is to enhance oral health”.<sup>1</sup> With the exception of dentists, whose training is regulated in the European Union (EU) directive on the regulation of professional qualifications (2005/36/EC),<sup>2</sup> there is little consensus surrounding the education and scope of practice of other OHPs at a European level. In addition, although the European directive provides overarching guidelines regarding the length and type of training that should be given to dentists, details concerning the content and mode of delivery of primary dental degree programmes are often managed at a national or local level. A recent scoping review revealed a significant gap in knowledge of how education of dentists and other OHPs is implemented and delivered in Europe, with the reporting at the curriculum, programme and faculty levels being both limited and outdated.<sup>3</sup>

Over the past 25 years, there have been several initiatives aimed at describing the delivery of dental education across Europe, including the EU-funded DentEd projects.<sup>4</sup> These initiatives revealed widespread differences in educational philosophy and curriculum content in institutions providing dental education across the continent.<sup>5</sup> This view was reinforced by a recent survey amongst members of the Association for Dental Education in Europe (ADEE) exploring issues such as funding sources, language, student and faculty profile, study hours, and programme characteristics.<sup>6</sup> Whilst differences undoubtedly exist, some of the variation recorded may be attributable to a lack of common understanding of the terms used to describe educational activities in the different European contexts. The multitude of languages spoken across Europe and the use of terms in different ways in different countries may contribute to this. For instance, the question “what is the length of your programme?” may

be interpreted as including or excluding preparatory courses and/or obligatory or voluntary postgraduate vocational training. This has led institutions, even within the same country, to give different answers. It is clear that in order to collect robust data in the future, it is essential that the terms used in data collection exercises are understood in the correct context by both the respondents and the users. As well as being important in supporting the creation of comparable datasets from OHP educators throughout Europe, the use of common terms about OHP education by stakeholders and policymakers also has potential regulatory and legal concerns, since the correct use of guidelines and other decision support tools to enhance the quality of oral healthcare depends on the use of common terms and concepts. The pan-European O-Health-Edu project, funded through the European Union Erasmus+ programme as part of the “Strategic partnerships for higher education” initiatives, is based on a vision of OHP education as a key determinant of the health of European populations. One of the specific objectives is thus to collect data about how OHP education is undertaken in institutions across Europe by means of an online survey. The findings of this survey will be incorporated into a comprehensive data hub, which can be updated in real-time to ensure long-term accuracy and relevance. In the light of the difficulties outlined above with regard to terminology, a needs analysis within the O-Health-Edu project recognised the importance of including an updated and relevant resource, where terms specifically related to OHPs education are clearly defined and explained with a European focus, in the data hub.

Glossaries have now become a common element of web-based “toolkits,” aimed at facilitating a common language through which academic teams can cooperate on research or development projects. Many of the documents dedicated to Higher Education at an international level include a comprehensive glossary of terms. Examples include the European Association of Distance Teaching Universities (EADTU) “Glossary of Education terms and EU education references”<sup>7</sup> and the One Health European Joint Programme (OHEJP) glossary to support communication and information exchange between the human health, animal health and food safety sectors.<sup>8</sup> At least two glossaries defining terms used in medical education exist,<sup>9-13</sup> but a literature review and online search revealed that existing resources within the oral healthcare sphere were oriented towards specific thematic areas.<sup>14-18</sup> As an example, the American Dental Education Association (ADEA) has recently published a “Diversity and Inclusion Terminology appendix”<sup>19</sup> related to strategies to improve recruitment and retention of underrepresented and marginalised faculty by dental schools and allied programmes. However,

none of the published glossaries was deemed broad enough to meet the needs of the O-Health-Edu project. In this paper, therefore, we describe the creation of ARTICULATE, a unique freely available online glossary, developed as part of a toolkit within the O-Health-Edu project. The aim of ARTICULATE is to create a shared language, with a European focus, for terms and concepts used in the field of OHP education as a resource to meet the needs of the OHP education community as well as our partners and collaborators.

## 2 | METHODS

### 2.1 | Effective project planning

In October 2019, a workshop involving the twelve members of the pan-European O-Health-Edu working group (international experts in OHP education, from seven different European countries and with a range of European first languages) was held to map out the scope and structure of the glossary and establish a workflow for its creation. During this workshop, it was agreed that the development work should result in an updatable online resource that is freely available to all interested parties. Initially, the glossary, developed in English, should include terms required to provide clarity and better understanding for questions written to collect data regarding OHP education in Europe as well as other core terms used in OHP education. A literature search was performed in PubMed and Google Scholar using the terms "glossary," "lexicon" or "dictionary" to identify relevant articles describing methodology for creation of a glossary. The current methodology was then developed from that published for construction of other glossaries and terminology systems.<sup>20-25</sup> The process was divided into a series of inter-related and iterative work packages aimed at:

1. creating initial content and definitions,
2. analysis and refinement,
3. testing of "fitness for purpose" of the content,
4. stakeholder consultation followed by refinement based on their comments,
5. creation of the final glossary,
6. launch as an online resource including a built-in mechanism for user feedback.

### 2.2 | Creating initial content and definitions

Initial selection of terms to be included was carried out during the construction of the O-Health-Edu survey regarding the practice of OHP education in Europe. They included basic pedagogical terms related to degrees; programme and curricular approaches; infrastructure and educational facilities; preclinical and clinical education; and quality assurance and student selection as applied to the education of OHPs. To increase the breadth of the glossary and thereby improve its performance as a stand-alone resource for all OHP

educators, articles linked to a range of curriculum documents<sup>26-30</sup> were also scanned for supplementary relevant terms. All terms were then uploaded to a communal web platform and members of the working group asked to prioritise the terms for inclusion. Terms deemed as having highest priority by a majority of the group were taken forward for inclusion. Once the preliminary content of the glossary had been agreed upon, each member of the working group was assigned a number of terms to focus on. Definitions were collected from relevant published materials including educational literature (books and journal articles), documents issued by the EU and associations related to OHP education as well as websites and other authoritative terminology resources. All definitions were then collated and uploaded to the web platform where members of the O-Health-Edu working group could leave comments and suggestions.

### 2.3 | Analysis and refinement of the first draft of the glossary

The collated document on the website was used as a basis for subsequent discussion. The O-Health-Edu working group met regularly online over a period of six months to discuss and refine each of the definitions based on the assimilated suggestions. With the exception of, for instance, protected titles for OHPs defined in EU directives, the group sought to create new definitions either from scratch or by paraphrasing the collected definitions in order to increase their specificity to OHP education and avoid copyright issues. Where there were differences of opinion, a consensus was reached through free and open discussion. The process was iterative and if members of the working group could not agree, further research was conducted as a basis for a new round of discussions until consensus was reached. Particular emphasis was placed on reaching definitions that were both contextual for OHP education and widely applicable in Europe and beyond. All the agreed definitions were then revisited to ensure that they conformed to the agreed style rules for the glossary, which were that they should, wherever possible:

- be succinct,
- give immediate information about what is meant by the term,
- be in the singular form,
- use English UK spelling,
- where possible, not include the term itself,
- where possible, be given in the noun or noun phrase form,
- include common acronyms and synonyms.

### 2.4 | Determination of fitness for purpose of the glossary

Since one of the purposes of the glossary was to increase understanding of the terms used to describe educational activities in the planned O-Health-Edu European survey of OHP education, relevant definitions were repeatedly tested by the working group and a small

group of external colleagues in the context of the draft questionnaire. This process led to changes being made to both the glossary and the questionnaire itself to ensure as high a degree of clarity as possible. At this stage, in preparation for dissemination, the glossary was named "ARTICULATE—a glossary of terms used in OHP education." A logo was created, and the terms were entered into an online database as a prelude to creation of the digital resource and front-facing web service.

## 2.5 | Consultation with a group of subject matter experts

The group chosen to pilot the first draft of ARTICULATE was a group of stakeholders who are also subject experts, namely Deans and Heads of Dental Schools from across Europe (defined by the World Health Organisation, *i.e.* 53 countries). For the first round of consultation, individuals registering for the annual online Forum of European Heads and Deans of Dental Schools (FEHDD) meeting in October 2020 were asked to complete a survey concerning the clarity of the glossary terms. The response options to the question "Is the definition of this term clear to you?" were "Clear" or "Not clear." If the response was "not clear," participants were asked to leave a comment. The terms deemed "not clear" by one or more respondents were taken to online consultation at the upcoming meeting. Delegates were assigned, in advance, to 4 groups for discussion of the unclear terms. The sessions were recorded to aid subsequent analysis and members of the working group acted as chairpersons and rapporteurs in each group. Participants were informed of the plan to record the session in advance, and verbal consent was obtained during the session before recording began. The respondents were informed of the approval of the O-Health-Edu project by the Bioethics Committee of the University of Barcelona (Institutional Review Board IRB00C, 03099). The second round of consultation on terms identified from educational documents was undertaken in a similar way but since the FEHDD were already aware of the ARTICULATE project, the process was conducted online, without the workshop element.

## 2.6 | Dissemination and continued stakeholder feedback

Following final adjustment resulting from the first consultation exercises, all terms were entered into the database serving the online resource. Graphics consistent with the previous O-Health-Edu outputs were created, and a random word generator was added to the ARTICULATE home page in order to make the glossary more inviting and engaging. Feedback forms were embedded to allow users to provide comments and suggestions about specific individual terms or to suggest new terms for inclusion. A variety of potential stakeholders with an interest in OHP education were informed of the launch of ARTICULATE and asked to review and provide feedback:

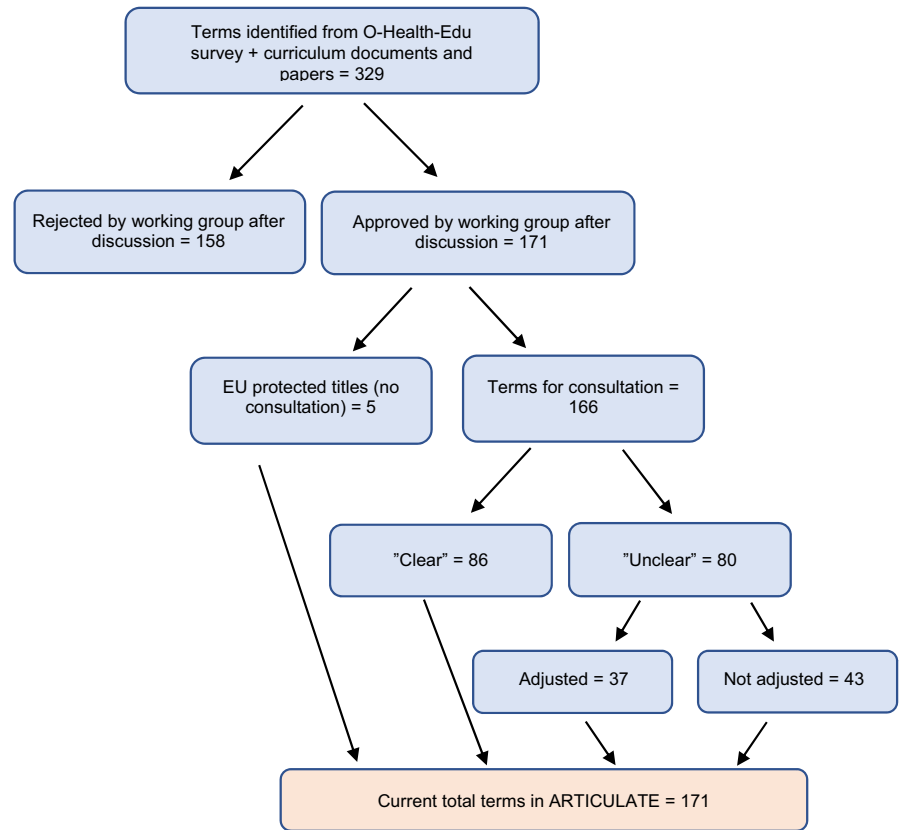
the Federation of European Dental Competent Authorities and Regulators (FEDCAR), the Council of European Dentists (CED), the European Dental Students' Association (EDSA), the Association for Medical Education in Europe (AMEE), the American Dental Education Association (ADEA), the Brazilian Dental Association (ABENO) and EU representation by way of, the European Association for Quality Assurance in Higher Education (ENQA) and the European Dental Hygienists' Federation (EDHF). Moreover, the ARTICULATE website (<https://o-health-edu.org/articulate>) encourages feedback that will continue to result in changes or additions being made to the terms if needed. This iterative methodology and continuous open consultation processes increase community ownership and allow for continuous refinement of ARTICULATE.

## 3 | RESULTS

The search for terms for inclusion in ARTICULATE from the O-Health-Edu survey as well as relevant literature yielded a total of 329 potential terms for inclusion (see Figure 1). During the initial round of discussions, 158 of these were eliminated because they were deemed to be outside the scope of the glossary at this stage, they were considered not fit-for-purpose or they had been removed during refinement of the questionnaire. The remaining terms (171), with the exception of "Dentist," "Dental Hygienist," "Dental Therapist," "Dental Nurse/Assistant" and "Dental Technologist," which are protected titles under the EU directive 2005/36/EU, were then taken forward for discussion and definition. All members of the group participated in the discussions to ensure the pan-European perspective. After piloting with a close group of colleagues, the glossary was opened for consultation. Thirty participants registered for the FEHDD meetings in October 2020 and May 2021, from France, Georgia, Germany, Ireland, Italy, Macedonia, Portugal, Spain, Sweden, Turkey and UK gave feedback on whether they regarded the definition of each term as "clear" or "not clear." A total of 86 definitions were described as "clear" by all individuals, whereas 80 were identified as "unclear" by at least one individual. The comments received for the terms deemed "unclear" could be grouped into five main themes:

- (i) post-COVID considerations (discussion regarding whether more terms relating to the digital delivery of OHP education should be included),
- (ii) contemporaneous technological terms (discussion around whether more terms relating to recent technological advances in OHP education should be included),
- (iii) names of educational spaces, clinical areas and laboratories (discussion regarding the subtleties of naming phases of the curriculum and physical spaces in which OHP students are educated),
- (iv) clarity over how widespread the use of terms is (discussion regarding whether guidance should be provided for terms that are not used ubiquitously throughout Europe – such as vocational training, for example),

**FIGURE 1** A diagram showing the workflow for inclusion of terms in ARTICULATE



**TABLE 1** Some examples of the refinement process for definitions

Term	Initial definition	Comments from consultation	Final definition after refinement
Clinical skills teaching laboratory	A facility that provides a safe and protected environment in which the learner can practise various clinical skills before using them in real clinical settings	"This should also embrace simulation"	A facility that provides a safe and protected simulated environment in which the learner can practise various clinical skills before using them in real clinical settings
Diversity	The condition of being different or varied	"It is not clear what is varied" "I am not clear about what characteristics are different here—please specify the concept"	The range of variation within a group of people that relates to individual characteristics
Practical test	A test designed to determine a person's ability to use their hands in a skilful, co-ordinated way	"A practical test may also assess, for instance, cognitive skills when communicating with a patient"	A structured assessment designed to determine a person's physical ability, either in relation to predefined criteria, or specific skill requirements
Preventative care	Practices designed to prevent oral disease	"Unclear if this is prevention (before disease is present) or includes minimally invasive dentistry (treatment of early-stage disease)"	Nonoperative practices designed to <i>prevent</i> oral disease

(v) requests for examples of educational methodologies.

All 80 terms deemed unclear by at least one individual were revisited and changes made to 37 of the definitions (see Table 1 for examples). Following amendment, these were added to ARTICULATE together with the protected title definitions to give a total of 171 terms (see Appendix A). In conjunction with the launch of the glossary, a range of organisations were informed and asked to participate in an open global consultation by providing feedback online. In this context, the ARTICULATE website (<https://o-health-edu.org/articulate>) had an average of 500 visits per month up to, and including, December 2021.

## 4 | DISCUSSION

The aim of ARTICULATE was to create a shared language, with a European focus, for terms and concepts used in the field of OHP education. Europe is a vast and enormously diverse area encompassing 44 to 50 countries according to definitions given by the United Nations and WHO respectively ([https://www.un.org/en/development/desa/policy/wesp/wesp\\_current/2014wesp\\_country\\_classification.pdf](https://www.un.org/en/development/desa/policy/wesp/wesp_current/2014wesp_country_classification.pdf); <https://www.euro.who.int/en/about-us>). Within this wealth of nations, there are wide differences not only in language but also in the practices used within the healthcare and education systems. This presents a major obstacle to the collection and assimilation of robust pan-European data regarding OHP education, and despite many years of evaluation and discussion about European harmonisation, currently, it is not even known exactly how many institutions across Europe are engaged in education of OHPs. A literature search revealed that the few resources available were not specific to OHP education and were not related to the European situation. Moreover, with the exception of that describing creation of the lactation glossary LactaPedia,<sup>20</sup> there were few papers reporting the methodology used for glossary creation. The focus of this paper was therefore to describe and reflect upon the process used to create ARTICULATE; a key output of the O-Health-Edu project aimed at addressing the future oral health needs of the European population through OHP education.

### 4.1 | A European context

The pan-European working group approach enabled input from OHP educators with a range of different languages and experiences. The majority of the group were bilingual, speaking English and at least one other European language, which contributed valuable perspective to the discussions. Regular online meetings allowed the group to build a cohesive team and gave sufficient time together for in-depth discussion and dialogue to reach consensus. As the development process evolved, the group gained a better understanding of the many differences and similarities in how OHP education is delivered both within and between the countries represented. Ironically, the

process was enhanced by the COVID-19 pandemic as many busy individuals were more available than normal due to home working.<sup>31</sup>

### 4.2 | Paraphrasing and the application of terms to an OHP education context

From the outset, it was decided by the O-Health-Edu team that, where possible, all terms would be defined independently by the group, prior to the consultation process. Example definitions were taken from a wide range of educational publications to ensure an adequate breadth of content, and these definitions were subsequently collated and paraphrased to form a single concise definition. The final step was to tailor the definition, so that it applied specifically to an OHP education context. The process of establishing independent definitions that are tailored to OHP education was imperative, since this will not only facilitate the collection of robust data from European OHP educational institutions but also ensure that the glossary is fit-for-purpose as a dedicated educational toolkit for all stakeholders in OHP education. As a terminological initiative, ARTICULATE thus differs from, for instance, the MedEdWorld glossary,<sup>13</sup> which is a dynamic source of general information about terms used in medical education compiled from academic references.

### 4.3 | Establishing terms that translate throughout European and beyond

It became apparent, during both the process of defining terms and stakeholder consultation, that some terms to be defined had very different meanings in different countries. An example of this is the term "vocational education," which can relate to hands-on, job-specific education before, during or after completing a qualification in a higher education institution. Homonymous words were noted as a significant challenge by the members of the O-Health-Edu team, and the process of resolution included referring to relevant literature and open-ended discussions by all experts in the team. Ultimately, consensus was achieved for each term. Referring back to the example, "vocational education" and "postgraduate vocational training" were separated into two distinct terms to provide further clarity, since vocational training may relate to workplace training undertaken as part of the primary degree programme in some countries.

### 4.4 | The consultation process and development of the online resource

Although the working group comprised professionals from different European countries with experience and expertise in OHP education, consultation with a wider external and multi-stakeholder group was considered an essential part of the project. The first group chosen for this process were the Deans and Heads of European Dental Schools since they represented both the target group for the OHE



survey and a broad group of academics with an interest in educational terminology. They were able to give valuable feedback related to the clarity of the definitions across Europe and the suggestions for improvement resulted in adjustments to many of the terms.

Whilst this relatively high-level approach was necessary to ensure progress within the project, the next step was to open up ARTICULATE to feedback from all stakeholders. ARTICULATE is therefore now available online through the O-Health-Edu website and has feedback forms embedded within it to encourage extension and refinement of the glossary by its users, at any level. The random word highlighting function draws attention to a specific selected terms on the website and it is hoped that this will increase visibility and interest in the glossary.

#### 4.5 | Lessons learned during the creation of ARTICULATE and future perspectives

Overall, the model that evolved for development of ARTICULATE was highly successful, leading to what we regard as a product that is fit-for-purpose. One factor that contributed significantly to the success of the project was the ability to rapidly form a constructive and coherent working group due to the experience that members brought from participation in other taskforce initiatives, including preparation of "The Graduating European Dentist" documents.<sup>29,30</sup> Despite this however, many of the online meetings to reach consensus on all the definitions became rather lengthy. On reflection, formation of smaller working groups to define terms and then report back to the wider constellation would be a more appropriate strategy for future initiatives.

The list of terms included in ARTICULATE is, naturally, not exhaustive—and the O-Health-Edu team do not regard the glossary as a finished project. Although the development of ARTICULATE involved pan-European partners, the online resource is a starting point for continued development by our global OHP educator community, and this will be positively encouraged through wide dissemination of the resource. Moreover, although ARTICULATE is currently available in English, future plans include translation into other European languages.

In order to ensure that structures to support update, extension and refinement are in place, a small taskforce has been identified within the O-Health-Edu team. The group will meet regularly to review feedback in the form of suggested modifications to definitions, proposed new terms for inclusion and identification of errors submitted through the ARTICULATE portal. Amendments will be made following a discussion-to-consensus procedure similar to that used previously. In particular, we are mindful of the requests for exemplification of educational methodologies and recognise the need to be sensitive to the development of new technologies within the area of OHP education. At the end of the O-Health-Edu project, responsibility for this task will pass to a working group within ADEE to ensure that ARTICULATE remains a contemporaneous and comprehensive 'living' resource for OHP educators in the future.

## 5 | CONCLUSIONS

- The O-Health-Edu consortium identified a need for standard definitions to increase the understanding of terms used in OHP education in different contexts across Europe and beyond.
- A process was developed and successfully used to create ARTICULATE—a unique, online glossary of terms used in OHP education.
- ARTICULATE provides a much-needed resource for OHP educators, which will be kept up-to-date and relevant through expansion and refinement by its community of users.

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### DATA AVAILABILITY STATEMENT


The data presented in this manuscript are available from the authors upon reasonable request.

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## APPENDIX A

## PREFACE TO ARTICULATE

Oral health professionals are involved in various aspects of oral healthcare provision across Europe. The Erasmus+ funded O-Health-Edu project aims to improve the management of oral health needs in European populations through actions on OHP education, and a starting point is the collection of robust data concerning how this is delivered across the continent. Among the important barriers to a shared understanding of pan-European differences in educational philosophy and curriculum content, are the multitude of languages spoken across the continent and the lack of common understanding about terms used to describe educational activities in the different European contexts. The O-Health-Edu working group therefore identified the development of a resource, where terms used in OHP education are clearly defined, as a key initiative within the project. This led to the development of "ARTICULATE - a glossary of terms used in OHP education." The 171 terms currently included can be broadly divided into the following categories: basic pedagogical terms related to degrees; programme and curricular approaches; pre-clinical and clinical education; infrastructure and educational facilities; quality assurance and student selection.

ARTICULATE was prepared collaboratively by the O-Health-Edu working group, comprising twelve experts in OHP education from seven different European countries. All members spoke English and at least one other European language. Once the preliminary content of the glossary had been agreed upon, we used definitions collected from relevant published materials as the basis for an iterative process of discussion and refinement. Particular emphasis was placed on reaching definitions that were both contextual for OHP education and widely applicable across Europe. A consultation process with a broader group of subject experts as well as a range of other stakeholders, led to further adjustments of many of the definitions.

As well as being presented here, ARTICULATE is also available online at <https://o-health-edu.org/articulate>. The list of terms is naturally not exhaustive - and the O-Health-Edu team do not regard the glossary as a finished project. Rather, it is a starting point for continued development of a living resource for OHP educators and we encourage feedback through forms embedded within the software that allow the users to provide comments about specific individual terms or to suggest new terms for inclusion. We are already aware of possible future requirements for terms associated with new technologies within the area of OHP education, interest in translation of terms and definitions into other major European languages and an interest in exemplification of educational methodologies. A small taskforce within the O-Health-Edu team will meet regularly to review these issues and we hope that this will ensure that ARTICULATE remains a contemporaneous and comprehensive "living" resource for OHP educators in the future.

## ARTICULATE—A GLOSSARY OF TERMS USED IN ORAL HEALTH PROFESSIONAL'S EDUCATION

## A

**Academic resilience**—The ability to continue to effectively work, study and progress through a programme while coping with adverse circumstances.

**Accrediting body**—An officially recognised organisation that validates or certifies a professional, educational programme or institution against specified standards

**Adaptive assessment**—A method sensitive to a previous learner's performance, which can be used to set thresholds for future assessments.

**Aptitude test**—A systematic means of testing a person's innate ability to perform particular tasks and react to a range of different situations.

**Asynchronous teaching**—Activities which engage a cohort of learners separately and/or at different times to one another.

## B

**Benchmarking**—The process of assessing performance, quality or procedure against a set or expected minimum standard.

**Blended learning**—A combination of remote and face-to-face, synchronous and asynchronous teaching methods to facilitate learning.

**Bricolage**—Creative learning through purposeful play.

## C

**Case-based approach**—A method where clinical cases are used to provide a realistic context to allow students to develop and apply their knowledge and reasoning skills.

**Clinical assistant**—A student giving clinical assistance, to a colleague who is acting as the primary operator.

**Clinical decision-making**—The process of gathering, interpreting and evaluating patient-based information and the scientific evidence base, in order to make informed choices about patient care.

**Clinical dental technician**—An oral health professional who can work clinically and technically, to construct and provide dental devices to patients.

Depending on their professional regulation, they may need to work to a prescription from a dentist.

**Clinical doctorate**—Postgraduate study of 240 European Credit Transfer and Accumulation System units (ECTS), usually as a period of focused specialist-level clinical activity at European Qualifications Framework (EQF) level 8.

**Clinical education**—The acquisition of knowledge and skills in the context of clinical practice.

**Clinical governance**—The integrated structures, frameworks and approaches taken by health professionals and organisations to ensure that clinical care is delivered in a responsible, accountable and transparent manner.

**Clinical observation**—The act of watching a health professional provide care or perform a procedure, within a real or simulated clinical environment.

**Clinical skills teaching laboratory**—A facility that provides a safe and protected simulated environment in which a learner

can practice various clinical skills before using them in real clinical settings. Synonymous with phantom head laboratory, phantom head clinic and pre-clinical laboratory.

**Clinical teacher**—A person whose primary role is to teach/support students within a clinical or clinical-simulation environment.

**Communication skills**—The ability to share information, ideas and feelings effectively with others, *i.e.* fellow students, the clinical team, patients and their families, the community, and other health-care workers.

**Community engagement**—Collaboration between higher or further education institutions and their wider communities, to improve awareness of oral health and the oral healthcare professions.

**Conceptual reasoning skills**—Problem-solving skills that involve reflecting on experiences and drawing on knowledge from other areas, to deepen understanding and inform judgement. Synonymous with “thinking outside the box.”

**Constructive alignment**—The design of learning activities and assessment tasks to support the intended learning outcomes of a programme.

**Continuing professional development (CPD)**—Engagement in activities that update and broaden knowledge, skills and experience, throughout an oral health professional's career.

**Critical thinking**—The active, systematic and balanced evaluation of evidence to provide an informed judgement.

**Curriculum**—Detail of a particular course of study, including learning outcomes, the students' expected educational experiences, assessments and formats for learning.

**Curriculum blueprint**—A comprehensive plan that maps all elements, *for example* learning activities, assessments and resources, to the learning outcomes so as to ensure consistency throughout the curriculum. Synonymous with curriculum map.

## D

**Dedicated/special entry programme**—An entry programme or entry requirements relating specifically to individuals or groups with particular characteristics.

**Dental clinic**—The place where oral health professionals (or students) provide oral health care for patients.

**Dental Hygienist**—An oral health professional who helps patients maintain their oral health by preventing and treating periodontal disease and promoting good oral health practice. Protected title “Dental Hygienist” under the EU directive 2005/36/EU. [https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprof&id\\_regprof=1073](https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprof&id_regprof=1073)

**Dental nurse (assistant)**—An oral health professional who provides clinical and other support to registrants (dentists, hygienists and therapists) and patients. Protected titles “Dental nurse,” “Dental surgery assistant” under the EU directive 2005/36/EU. [https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprof&id\\_regprof=12066](https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprof&id_regprof=12066)

**Dental School**—The unit within an institution that is responsible for teaching and administering dental and oral health professional programmes.

**Dental technician**—An oral health professional who makes dental devices to a prescription from a dentist or clinical dental technician. Protected titles “Dental technician,” “Dental technologist” under the EU directive 2005/36/EU.

[https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprof&id\\_regprof=12065](https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprof&id_regprof=12065)

**Dental therapist**—An oral health professional who carries out limited items of dental treatment direct to patients or under prescription from a dentist. Protected title “Dental therapist” under the EU directive 2005/36/EU.

[https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprof&id\\_regprof=1074](https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprof&id_regprof=1074)

**Dental virtual reality simulator**—A device that allows the user to interact with virtual three-dimensional oral images or environments in a seemingly real way.

**Dentist**—An individual who has successfully completed basic dental training and is licensed to perform all activities involving the prevention, diagnosis and treatment of anomalies and diseases of the teeth, mouth, jaws and associated tissues. Protected title “Dentist” under the EU directive 2005/36/EU. Synonymous with: Dental practitioner, Dental surgeon, General dentist.

**Didactic delivery**—The direct delivery of teaching material from teacher to student, typically in lecture format with little student engagement.

**Digital radiography**—The use of x-ray-sensitive plates or sensors, to capture image data and transfer it to a computer system to store, view and manipulate the image digitally.

**Director of Learning and Teaching**—An individual typically responsible for the design, implementation and quality assurance of curricula. Synonymous with Director of Education.

**Discipline-based/orientated**—The teaching of subjects as stand-alone subjects (*i.e.* anatomy, physiology, biochemistry), rather than in a thematic way (*e.g.* oral health and disease, the oral ecosystem).

**Diversity**—The range of variation within a group of people that relates to individual characteristics.

## E

**E-books**—Electronic books: books in digital form, often available online for multiple users.

**ECTS**—European Credit Transfer and Accumulation System.

**EdD (Doctor of Education)**—Postgraduate study of 240 European Credit Transfer and Accumulation System units (ECTS), usually as a period of independent research in workplace-based education at European Qualifications Framework level 8.

**Education Research**—The academic field of study that explores the modalities and effects of education and learning activities.

**Electronic health record**—A collection of patient health-related information in a digital format.

**Electronic portfolio**—A digital collection of evidence of an oral health professional's activities, performance and achievements.

**Environmental sustainability**—Strategic, holistic and long-term approaches committed to minimising the environmental

impact of activities relating to oral healthcare and oral health professional's education.

**EQF**—European Qualifications Framework.

**Erasmus plus (clinical)**—A European Union-funded student exchange which happens during the clinical years of an oral health professional's programme.

**Erasmus plus (pre-clinical)**—A European Union-funded student exchange which happens during the pre-clinical years of an oral health professional's programme.

**Ethics**—The principles and values that govern an oral health professional's professional practice and behaviour.

**Evidence-based practice**—The application of the best available scientific knowledge from research as well as clinical practice and expertise, relevant to a patient's needs and context.

**Exchange programme**—A programme that offers students a period of study at another institution, often in another country, through partnerships such as Erasmus+ or an individual agreement between institutions.

**External quality assurance**—A process of quality assurance undertaken from outside the institution in question.

## F

**Feedback**—The provision of information regarding a student's performance against an expected standard, with the aim of improving future performance.

**Fishbowl learning**—A teaching strategy for medium-to-large groups which aims to encourage active listening and reflection on alternative viewpoints. This approach requires the group to be clearly divided into two groups. Groups alternate between being inside the 'fishbowl' (involved in active discussion) and outside the 'fishbowl' (observing the discussion).

**Fitness to practice**—The ability of an oral health professional or student to provide safe and effective patient care. This ability is based on the knowledge, skills, behaviours and values expected of an oral health professional, which can be self- or externally-assessed.

**Fitness to study**—The ability of an oral health professional student to adequately engage/ participate with a programme of study and the wider education environment.

**Flipped learning**—An approach where students acquire knowledge before a synchronous teaching event, and use formal teaching time to discuss, evaluate and apply concepts through interaction with each other and a teacher.

**Full-time**—Employed by an institution for at least 30 hours (10 clinical sessions, or half days) per week.

## G

**Gate-keeping activity**—An activity (e.g. module, course, assessment or programme of study) that regulates student progression, typically relating to patient-based clinical activities.

## H

**Hidden curriculum**—Elements of the curriculum or learning experience which are not explicitly communicated to students, or identified by the teaching staff.

**High-school**—An establishment providing education up to European. Qualifications Framework level 4. Synonymous with secondary school, college.

**High-stakes assessment**—An assessment that has an impact on a student's progression at significant points within the programme.

## I

**Information literacy**—The ability to access, manage and use information appropriately, from a variety of sources for research, problem-solving, clinical care and decision-making, and continuing professional. development.

**Institution**—A place of learning from which students graduate with a recognised qualification. For oral health professionals this would normally be a University (Higher Education), but it may also be a college or other place of Further Education.

**Integrated approach**—The teaching of subjects in a thematic way (e.g. oral health and disease, the oral ecosystem), rather than as individual stand-alone subjects.

**Integrated curriculum**—A process by which knowledge is primarily taught through an integrated approach for the entire programme of study.

**Inter-personal skills**—The ability of an individual to interact with others effectively within diverse and possibly complex situations.

**Internal quality assurance**—A process of quality assurance undertaken *within* an institution.

**International EU graduate**—A graduate qualifying from an institution in another EU member country (excluding the country in which the institution in question is situated).

**International non-EU graduate**—A graduate *not* originating from an EU member country.

**Interprofessional education**—An approach that involves learners from two or more professions, who actively contribute to a collaborative learning environment to improve patient-centred care.

**Interview**—A structured conversation with a particular focus, where one or more participants asks questions to an applicant.

**Intra-oral scanning**—A method for capturing direct optical impressions of the intra-oral tissues.

**Introduction to healthcare initiative**—An initiative to improve awareness and introduce oral health professional roles to young adults, who are still studying at European Qualifications Framework levels 1-4.

## J

**Junior teaching staff**—Teachers recognised as still developing their experience within an academic environment—such as Lecturers, Clinical Fellows, Clinical Lecturers, Clinical Tutors, or visiting Practitioners—involved in the delivery of Oral health Professional's education.

## L

**Learning needs analysis**—A systematic process to collect and evaluate information on what knowledge, skills and competencies an individual or group needs to achieve the intended learning outcomes.

**Learning outcome**—A series of individual and objective outcomes, with shared ownership between students and staff, designed to facilitate the learning and assessment process.

**Learning package**—A resource where all necessary learning material for a specific topic is available in a consolidated place, accessible for the duration of the programme of study.

**Lecture capture**—The process of recording video and/or audio streams of lectures or other synchronous teaching events, and making them available digitally.

**Lifelong learning**—All learning activity, education and training, formal and informal, undertaken throughout an oral health professional's career that results in an improvement in knowledge, skills and competences.

**Longitudinal assessment**—The process of assessing specific content repeatedly, or over a protracted period of time.

**Longitudinal integration**—Integration of teaching material into multiple learning events, throughout a programme.

**Low-stakes assessment**—An assessment that, in itself, does not *directly* contribute to significant points of progression within a programme.

## M

**Masters**—Postgraduate study of 180 European Credit Transfer and Accumulation System units of which at least 120 must be at European Qualifications Framework level 7. Credits for approved prior learning (APL) may mean that a Masters' programme may be completed in a shorter than usual timeframe.

**Multiple mini-interview**—An interview format that uses short independent assessments, typically in a timed circuit, to obtain an aggregate score relating to interpersonal, communication, observational and judgement skills.

## N

**Non-invasive oral care**—The provision of oral care that does not involve the irreversible manipulation of hard or soft tissues, such as the delivery of preventive advice, application of topical medicaments and debridement and prophylaxis of the hard tissue surfaces.

## O

**Objective structured clinical examination (OSCE)**—An examination where oral health professional student's skills are tested against pre-defined standards on a circuit of scenarios structured to represent a variety of clinical situations.

**Operating microscope**—An optical microscope specifically designed to be used by oral health professionals during clinical procedures.

**Operative oral care**—Oral health treatment that involves the removal or irreversible manipulation of hard or soft tissues, typically under local anaesthesia. Examples include operative caries management, the placement of restorations and periodontal therapy.

**Oral health advocacy**—An approach that aims to raise awareness, and encourage students, to actively promote oral health issues to wider stakeholders and decision makers.

**Oral health professional**—A qualified member of the Oral Healthcare team, *i.e.* any one of the following professionals: Dentist, Dental Nurse, Dental Therapist, Dental Hygienist, Dental Technician.

**Outreach practice**—Dental clinics that allow undergraduate students to provide oral health care to a population geographically distant from the University's main dental school or hospital. On occasion, outreach practices may focus on serving the needs of specific groups of patients. Synonymous with: vocational education in some countries.

## P

**Part-time**—Employed by an institution for less than 30 hours (or 10 clinical sessions) per week

**Patient-centered approach**—An approach to care that considers patient needs, values and preferences, whilst ensuring that the patient is actively involved in the decision-making process.

**Peer-review**—The evaluation of a student's scientific, academic, or professional work by other students. Synonymous with peer-assessment, peer-support.

**Peer-teaching**—An approach where students assist with the instruction of other students.

**PhD**—Postgraduate study of 240 European Credit Transfer and Accumulation System units, usually as a period of independent research at European Qualifications Framework level 8.

**Portable electronic devices**—Mobile equipment such as phones, personal computers, laptops or tablets.

**Positive discrimination**—The practice of *preferential* selection of individuals based on specific protected characteristics.

**Postgraduate vocational training**—A period of training for graduates of primary dental degree programmes to meet the requirements established by an accrediting, or to work within a particular health-care system. The existence of post-graduate vocational training is not ubiquitous across Europe.

**Postgraduate Certificate**—Postgraduate study of 60 European Credit Transfer and Accumulation System units (ECTS) of which at least 40 ECTS must be at European Qualifications Framework level 7.

**Postgraduate Diploma**—Postgraduate study of 120 European Credit Transfer and Accumulation System units of which at least 90 ECTS must be at European Qualifications Framework level 7. Credits for approved prior learning (APL) may mean that a diploma may be obtained in a shorter than usual time frame.

**Practical exercise**—A defined and purposeful learning activity that involves physical processes or purposeful play.

**Practical test**—A structured assessment designed to determine a person's physical ability, either in relation to pre-defined criteria, or specific skills requirements.

**Preventative care**—Non-operative practices designed to *prevent* oral disease. Synonymous with preventive care.

**Primary dental degree programme**—A course of study resulting in qualification as a dentist. Synonymous with BDS, BChD.

**Private funding**—Funding received from non-government sources.

**Problem-based learning**—A student-centred teaching philosophy in which the learning is driven by the students solving an authentic problem, often in small groups with a facilitator.

**Productive failure**—A learning approach whereby students attempt to solve problems without explicit initial instruction, followed by discussion and reflection, that makes future attempts more productive. Synonymous with productive learning.

**Professional accreditation**—A process that results in the registration or licensing of an individual to practice in a particular oral health profession.

**Professional development plan**—An outline or schedule, made by an oral health professional of planned participation in events or processes which support their training or career development goals/needs.

**Professionalism**—Demonstration of commitment to a set of values, behaviours and relationships expected of an oral health professional, which help to maintain public trust in the relevant profession.

**Programme**—A recognised course of study that provides a coherent learning experience and normally leads to a qualification

**Protected characteristics**—Characteristics by which individuals are protected against discrimination: age, culture, diversity of background and opportunity, disability, gender, language, religion and sexual orientation.

**Purposeful play**—Dedicated activities which allow learners to explore and experience the behaviour of materials, equipment and processes in a safe and protected environment.

## Q

**Quality assurance**—The systematic evaluation of oral health professional's education, to improve quality, and ensure that programme standards are sufficient to meet necessary institutional and/or external regulatory requirements.

## R

**Reduced entry requirement**—A lowering of the standard requirement (financial or academic) to allow entry onto an oral health professional programme. Synonymous with contextual offer.

**Reflective portfolio-based approach**—A methodology where students are required to record longitudinal information about educational activity, often supported by a reflective framework.

**Reflective practice**—A process of thinking deeply and carefully about professional practices, so as to engage in a process of continuous and lifelong learning.

**Research activity**—Active participation in clinical, epidemiological, experimental, or educational research.

**Research laboratory**—A facility where students or staff can engage in experimental or applied research.

**Role-play**—A simulation methodology where students or educators enact roles and character presentations, to illustrate scenarios relevant to the educational or clinical setting.

## S

**Safe-beginner**—A graduating oral health professional who can demonstrate the range of capabilities expected within their scope of

practice whilst still developing skills in, and through, self-reflection and lifelong learning.

**Scholarship**—A grant or payment made to support a student's education, which does not need to be paid back to the donor.

Synonymous with bursary, award, stipend. Homonymous connection: The term in this context should not be confused with its use in "The *Scholarship* of Teaching and Learning."

**Scope of practice**—The range of procedures an oral health professional is permitted to perform under their specific level of professional registration/ regulation.

**Self-assessment**—The evaluation of oneself or one's actions, attitudes or performance in relation to pre-defined objective criteria.

**Self-awareness**—The ability to reflect on one's own characteristics, including attitudes, skills and behaviours.

**Senior teaching staff**—Teachers recognised as holding significant experience within an academic environment—such as Professors, Associate Professors, Readers, Senior Lecturers, and Senior Clinical Teachers—involved in the delivery of oral health professional's education.

**Shadowing**—Following someone and observing in order to learn.

**Signposting**—Providing directions to the learner about the aims or progress of an activity in relation to the intended learning outcomes.

**Situated learning**—Learning through participation and reflection on contextual, cultural, and authentic real-life activities.

**Situational judgement testing**—A method of evaluating a person's responses and judgements, in relation to a range of specific scenarios.

**Small-group delivery**—An educational approach that involves students working together in groups of up to 8, to undertake tasks and achieve specific learning outcomes.

**Social accountability**—The responsibility of an oral health professional to raise awareness of their community's needs, and to act in their best interests, particularly in relation to the underserved and vulnerable populations.

**Social determinants of health**—"The conditions in which people are born, grow up, live, work and age. These conditions influence a person's opportunity to be healthy, his/her risk of illness and life expectancy." Defined by The World Health Organisation: <https://www.euro.who.int/en/health-topics/health-determinants/social-determinants#:~:text=Social%20determinants%20of%20health%20are,of%20illness%20and%20life%20expectancy>.

**Social skills**—Attitudes and abilities relating to communication and interactions with others.

**Specialist dentist**—A dentist who has successfully completed a nationally-recognised training programme and is registered as a specialist with the national regulator or equivalent. Synonymous with Specialist Dental Practitioner.

**Spotter test**—A formative assessment that requires students to interpret visual artefacts (e.g. images, specimens) —typically in relation to anatomical structures, pathological conditions or diseases. Synonymous with Steeplechase assessment.



**Stakeholder**—An individual, group, or organisation, recognised as being affected by the decisions of another organisation; and who may provide insight and influence to shape such decisions.

**Stand-alone school**—A dental school that governs itself, with no parent institution.

**Standard setting**—The process whereby clear and defined boundaries of performance are set for an assessment

**State examination**—A licensing examination that future oral health professionals are required to pass to be allowed to register to work in their profession, after graduating from the primary degree programme. Typically, a licensing examination would be a national requirement.

**State funding**—Funding received from government sources. Synonymous with Public funding.

**Storytelling**—A tool that uses narratives (stories) to enable students to develop the skill of critical reflection, and to develop as reflective practitioners. Synonymous with Narrative pedagogy.

**Student preparedness**—How “ready” a given student is to engage in educational or clinical activity.

**Student satisfaction**—A student’s perception of how satisfied they are with their educational experience and outcomes.

**Support and well-being services**—Services providing general information, advice and welfare support for students and staff of the institution in relation to, *for example* disability, mental health, counselling and educational opportunities.

**Synchronous teaching**—Activities which engage a cohort of learners together, at the same time (*i.e.* a live teaching event).

## T

**Tacit learning**—Learning directly through observing someone who is drawing on their own personal experiences, which are difficult to rationalise/explain.

**Teachback**—A method of assessing if a student understands a concept by asking them to explain it back to an educator or group.

**Teaching excellence**—A multi-dimensional concept integrating approaches that contribute to good student learning experiences and outcomes, either through direct influence on the students, or indirectly through staff development or institutional policy.

**Teaching staff**—Persons whose primary function is to provide teaching within the institution. Synonymous with Faculty.

**Teamwork**—The coordination and implementation of tasks and activities between different healthcare professionals.

**Technical skills teaching laboratory**—A facility that provides a safe and protected environment in which the learner can practice technical skills before using them to create devices for patients. Synonymous with Prosthetic laboratory, Technical laboratory, Dental Technology laboratory.

**Term of office**—The period over which a member of staff holds a particular governance position.

**Threshold concept**—A topic within a curriculum that, when understood, results in fundamental changes in perception and practice of other parts of the subject/discipline.

## U

**Under-represented group**—A subset of the population that is inadequately represented in relation to oral health professional education.

**University level pre-dental programme**—A course of study within higher education aimed at preparing a student for entry to a primary dental degree programme. Synonymous with Foundation programme.

## V

**Vertical integration**—The coordinated, purposeful and planned linkage of curriculum elements to learning activities so that basic skills and knowledge are developed and reinforced across a whole programme in a progressive manner, *for example* the integration of basic sciences and clinical practice.

**Virtual campus**—The range of online facilities, services and learning resources provided by a higher education institution.

**Virtual learning environment**—An educational online platform that contains digital resources related to a course or programme of study.

**Vocational education**—The provision of hands-on, job-specific education and experience in the workplace that prepares an oral health professional student to work independently in a healthcare setting.

**Volunteering**—The provision of services within the wider community by oral health professional students, for no financial gain, as a recognised part of their studies.

## W

**Whistleblowing**—The act of making a protected disclosure of information about actions that are unlawful, or not in the best interests of others.

**Widening participation**—Measures aimed at addressing the discrepancies in higher education opportunities between different groups within a population. Synonymous with Widening access.

**Workplace-based assessment**—An evaluation based in a normal practice environment, often used to assess professional competence.

**Written examination**—A form of assessment that requires students to respond in writing. The format can be paper-based or digital.

## 3

**3D-printing**—A process by which it is possible to build three-dimensional objects from a computer-aided design model.