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INVITED EDITORIAL

Exploring the Capabilities of a Graduating European Dentist: A Multistakeholder View

James Field[1,2] | Sibylle Vital[2,3] | Denis Murphy[2] | Jonathan Dixon[2,4] | Argyro Kavadella[2,5] | Dalia Meisha[2,6] | Nibal Sabri[2] | Adee Mohammed Al-Haroni[2,7,8] | Gabor Gerber[2,9] | Renata Chalas[2,10] | Eduardo Valmaseda Castellon[2,11] | Upen Patel[2,12] | Cristina Manzanares-Cespedes[11] | Siri Beier Jensen[13] | Isabel Brandt Jensen[14] | Edoardo Cavallé[15] | Cedric Grolleau[16] | Anne Havemose-Poulsen[17] | Eliska Jandová[18] | Joshua Kennedy[19] | Clara Luciani[20] | Katalin Nagy[20] | David O'Flynn[16] | Paul Lyons[21] | Miguel Pavão[16,22] | Maria João Ponces[23] | Angela Rovera[24] | Saulė Skinkytė[18] | Torben Schønwaldt[14] | Freddie Sloth-Lisbjerg[20] | Hans De Vries[25] | Wil Van der Sanden[26,27] | Sara Cecilie Wapner Schrøder[28] | Ivan Alajbeg[29]

[1]Cardiff University, Cardiff, Wales | [2]Association for Dental Education in Europe (ADEE), Dublin, Ireland | [3]University Paris Cite, Paris, France | [4]University of Sheffield, Sheffield, UK | [5]European University, Nicosia, Cyprus | [6]King Abdulaziz University, Jeddah, Saudi Arabia | [7]University of Oslo, Oslo, Norway | [8]UiT the Arctic University of Norway, Tromsø, Norway | [9]Semmelweis University, Budapest, Hungary | [10]Lublin University, Lublin, Poland | [11]University of Barcelona, Barcelona, Spain | [12]University of Birmingham, Birmingham, UK | [13]University of Aarhus, Aarhus C, Denmark | [14]Danish Dental Association, Copenhagen, Denmark | [15]Federation Dentaire Internationale (FDI), Geneva, Switzerland | [16]FEDCAR, Brussels, Belgium | [17]University of Copenhagen, Copenhagen, Denmark | [18]European Dental Students Association (EDSA), Dublin, Ireland | [19]British Dental Association, London, UK | [20]Council of European Dentists, Brussels, Belgium | [21]Irish Dental Council, Dublin, Ireland | [22]Portuguese Dental Association, Porto, Portugal | [23]Portuguese Dental Association, University of Porto, Porto, Portugal | [24]Council of Chief European Dental Officers (CECDO), Rome, Italy | [25]Royal Dutch Dental Association (KNMT), Utrecht, the Netherlands | [26]Radboudumc Nijmegen, Nijmegen, the Netherlands | [27]Department of Dentistry, Academic Centre for Dentistry Amsterdam (ACTA), Amsterdam, the Netherlands | [28]Danish Patient Safety Authority, Copenhagen, Denmark | [29]University of Zagreb, Zagreb, Croatia

Correspondence: James Field (Fieldj2@cardiff.ac.uk)

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ABSTRACT

In 2026 the Association for Dental Education in Europe (ADEE) Graduating European Dentist (GED) taskforce held an international multi-stakeholder event that explored opinions, perceived understanding, and clinical expectations around student progress and graduating student capabilities. This paper reports how the event was planned and conducted—and reports the opinions of the stakeholders relating to the importance of various clinical domains, evaluation/assessment metrics and markers when monitoring student progress and student capabilities.

1 | Introduction

1.1 | Background

Early in 2025, the ADEE Graduating European Dentist (GED) Taskforce held its first two-day, in-person stakeholder workshop aimed at critically examining the ideological foundations underpinning the GED Curriculum Framework [1]. A total of 38 stakeholders attended, representing academic institutions, professional associations, regulatory bodies, public health organisations, students, and industrial partners.

Pre-workshop survey data and discussions at the event highlighted a clear "divergence" between *current* stakeholder perspectives and established scholarly academic approaches that might be considered more typical of the higher education environment. Notably, there was a marked preference for ideologies that "emphasised the learner's experience, their societal utility,

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and the role of education in addressing population health needs" [2]. Time was spent brainstorming potential solutions to the challenges that all stakeholders reported facing when educating and training Dentists—and with this in mind, the stakeholder group proposed a number of objectives for 2025–2030 [2].

1.2 | Interim Steps

It was clear from the 2025 multi-stakeholder event that there is unlikely to be consensus on the exact profile of a dental graduate. Rather than looking for a single consensus, the GED taskforce proposed a review of the suitability of a *range* of clinical measures and metrics that could be applied across a *range* of scenarios to account for institutional variability and local populations. The original GED Framework comprised a set of behaviour-based learning outcomes, and guidance around methods of teaching and assessment [1, 3–9]. Thus far, the framework has not provided guidance around the expected clinical outcomes or study time for students, the ways in which they are monitored, or their progression requirements.

Following a stakeholder workshop at the ADEE annual conference in Dublin (August 2025), additional elements of the Framework were proposed in order to give it more utility. These were discussed further and reflected in an updated interim version of the Framework, to be discussed at the next in-person event. The additional elements included:

- student monitoring, support and progression.
- recording of student activity and student/staff reflections.
- the development of longitudinal action plans.
- educational approaches and practices.

A third stakeholder event was then planned, to:

- discuss the evolving GED Framework.
- further explore the development of expected standards for clinical training and contact time.
- Begin to explore ways of standardising undergraduate training requirements and curriculum approaches across Europe.

2 | Methodology

2.1 | Participant Recruitment and Pre-Event Preparation

It was planned for the Danish Dental Association and the Council of European Dentists (CED) to jointly host the third stakeholder event. Invitations were distributed to a range of relevant stakeholders identified from the initial event in Dublin. As the event was located in Copenhagen, a focus was placed on relevant stakeholders located in Scandinavian countries.

In advance of the event, and based on responses from the first workshop, participants were invited to complete an online survey designed to capture perspectives on a range of educational and clinical parameters:

- opinions on the updated GED Framework (content and clarity).
- opinions on educational approaches and practices.
- opinions on expected clinical standards and clinical expectations.
- opinions on how 'competent' or 'capable' students should be identified, monitored, and the expected thresholds for their progression.
- acceptability of various scenarios of student capability at graduation.

The survey instrument is available here and the results informed the discussion at the event. The group discussions covered a broad range of domains and procedures when considering the scope of practice of a dentist. Discussions also explored the concept of 'capability' and the ways in which capability is reportedly used in the wider workplace, by a range of professions.

At the event, participants were asked about their opinions on the following:

- the importance of graduating dentists being able to complete various clinical workflows themselves, on real patients, autonomously.
- the acceptability of a range of alternative options to demonstrating full clinical workflows on patients.
- the importance of treating various types of patients.
- how students should be monitored longitudinally.
- how student capability should be measured and monitored.

Towards the end of the session, participants were given another chance to reflect and discuss the proposed GED Framework. Finally, stakeholders were consulted on the value of making a joint 'Declaration' to urge the European Union to modernise undergraduate training and align with common clinical standards—standards which were originally established in 1978 [10] and are (at the time of publication) yet to be updated.

3 | Results

The stakeholder event was hosted in Copenhagen by the Danish Dental Association and the Council of European Dentists (CED) on 26th February 2026. A total of 29 participants were recorded—and their affiliations are reported in Table 1. The group is shown in Figure 10. Informed consent to use the recorded data was assumed through their voluntary registration and active engagement.

3.1 | Part 1: Pre-Event Survey

The pre-event survey provided an excellent starting point to explore stakeholder opinions on those elements of the Framework which were considered to be important, and what constitutes a 'competent' student. The survey instrument is available here, and the results are presented below.

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TABLE 1 | Participant affiliations.

Name	Affiliation(s)
Angela Rovera	Italian Chief Dental Officer, on behalf of the Council of European Chief Dental Officers (CECDO)
Anne Havemose-Poulsen	University of Copenhagen Dental School
Anne Mette Stougaard	Danish Dental Association – Board Member
Argyro Kavadella	Association for Dental Education in Europe (ADEE) GED Taskforce
Cedric Grolleau	Federation of European Dental Competent Authorities and Regulator (FEDCAR)
Clara Luciani	Council of European Dentists (CED)
David O'Flynn	FEDCAR President
Denis Murphy	ADEE
Edoardo Cavallé	European Region Organisation (ERO) of the World Dental Federation (FDI)
Eliska Jandová	European Dental Students Association (EDSA)
Freddie Sloth-Lisbjerg	CED President
Gábor Gerber	ADEE GED Taskforce & Semmelweis University
Hans de Vries	Royal Dutch Dental Association (KNMT)
Isabel Brandt Jensen	Danish Dental Association—Chief Executive Officer
Ivan Alajbeg	ADEE Board President Elect & University of Zagreb
James Field (Chair)	ADEE Board, GED Taskforce Chair, & Cardiff University
Joshua Kennedy	British Dental Association—International Affairs Committee
Katalin Nagy	CED Board & Szeged University
Maria João Ponces	Portuguese Dental Association & University of Porto
Miguel Pavão	FEDCAR & Portguese Dental Association
Mohammed Al-Haroni	ADEE Board
Nibal Sabri	ADEE GED Taskforce
Paul Lyons	Irish Dental Council
Sara Cecilie Wapner Schrøder	Danish Patient Safety Authority
Saulė Skinkytė	EDSA
Sibylle Vital	ADEE Board and GED Taskforce & Université Paris Cité
Siri Beier Jensen	University of Aarhus
Torben Schønwaldt	Danish Dental Association—President
Wil van der Sanden	Radboudumc Nijmegen, Department of Dentistry and ACTA, Amsterdam, Member of the Regional Council of ADEE

3.1.1 | GED Framework Feedback and Workshop Preparation

Twenty stakeholders responded to the survey. 90% of respondents ($n = 18$) were already familiar with the multi-stakeholder paper, published following the initial event in Dublin [2]. The majority of stakeholders represented organisations involved in the delivery of healthcare at a national or international level, including representatives from academic institutions ($n = 6$), regulatory bodies ($n = 4$), and students ($n = 3$). Respondents were able to represent more than one stakeholder group, depending on their roles and responsibilities.

- 100% ($n = 20$) of respondents supported the approach of developing a range of expectations for graduating dentists that can be applied across a variety of local or national scenarios—as opposed to a rigid requirement that must be applied in all locations and settings.
- 95% ($n = 19$) of respondents felt that the proposed GED Framework provided a clear structure, and that they were

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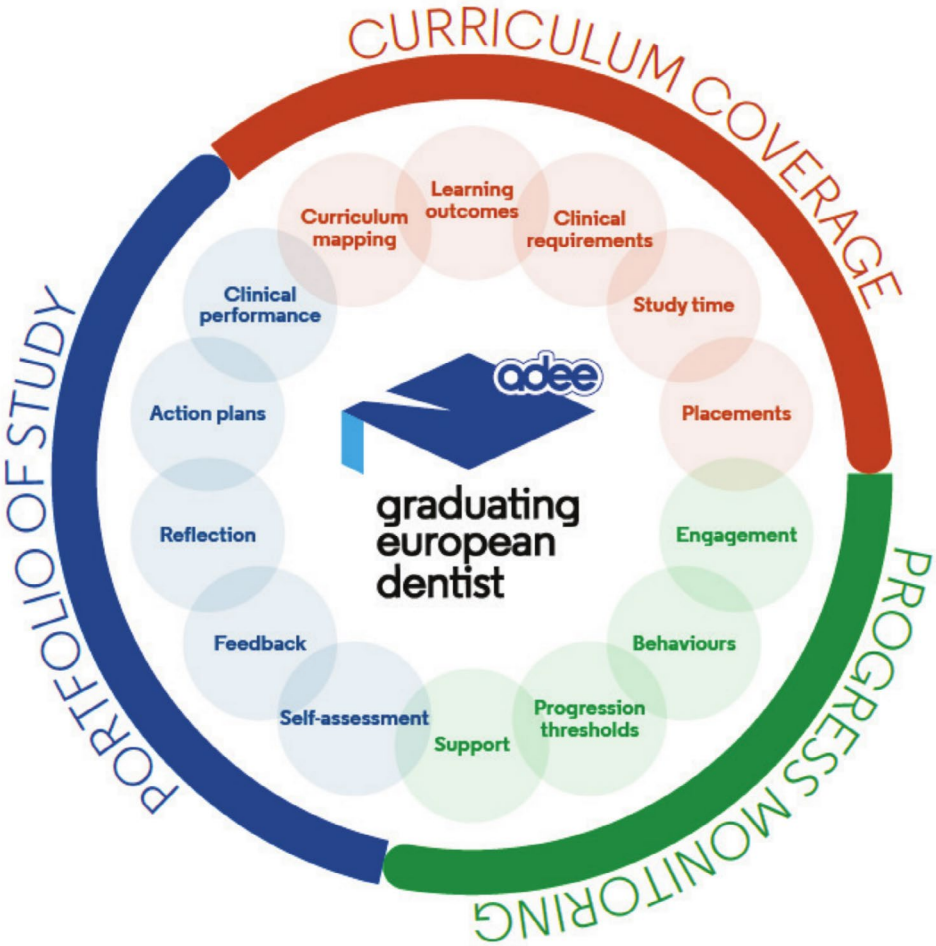

FIGURE 1 | The GED Framework.

in agreement with the overarching themes that had been chosen (curriculum content, progress monitoring, and electronic portfolio of study).

- 100% ($n = 20$) reported being comfortable with how the individual Framework elements had been categorised.
- Free text comments suggested that there was a degree of overlap with some of the themes, and that there could be further clarity about what some terms were referring to. These comments were discussed further at the event—and the final framework is shown in Figure 1.

3.1.2 | Curriculum Elements

Respondents were asked to rank the following curriculum elements according to their perceived importance:

- Clearly defined knowledge, skills, and behaviours
- Defined clinical requirements and performance
- Clinical placements across a variety of workplace settings
- Early and longitudinal case-based learning
- Clearly allocated study time (non-clinical)
- Regular inter-professional education opportunities

Figure 2 represents the collective view of the respondents. Clearly defined knowledge, skills and behaviours were seen as the most important element, with regular inter-professional education opportunities reported as the least important.

3.1.3 | Clinical Requirements

Respondents were asked to rank their perceived importance of the following clinical requirements:

- Number of full clinical procedures carried out on patients.
- Total number of hours of clinical patient contact.
- Number of years of clinical patient contact.
- Requirement to work across the full range of clinical disciplines.
- Number of patient clinics each week.
- Total amount of assisting/nursing for colleagues.

Figure 3 represents the collective view of the respondents. The number of full clinical procedures carried out on patients was considered the most important element, while the total amount of assisting/nursing for colleagues was considered the least important.

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FIGURE 2 | Collective ranking of GED Framework elements according to their perceived importance by the stakeholder group.

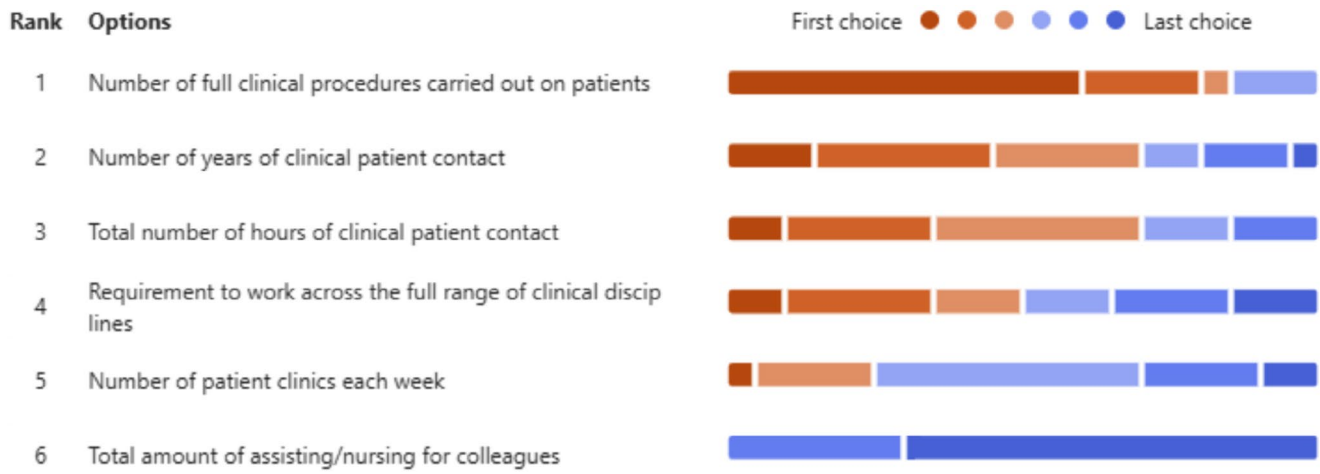

FIGURE 3 | Collective ranking of clinical requirements according to their perceived importance by the stakeholder group.

3.1.4 | Clinical Competence

Respondents were asked to rank their perceived importance of the following elements when considering what constituted clinical competence:

- Operating safely.
- Level of clinical independence.
- Operating as expected.
- Dealing with complications.
- Reflection and planning learning.
- Explaining the approach.
- Confidence.
- Consistency.
- Efficiency.
- Number of times procedures are carried out.

Figure 4 represents the collective view of the respondents. Operating safely was seen as the most important element, with the number of times procedures are carried out (or time spent on procedures) and operating efficiently being seen as the least important. Operating with confidence, and reflection and planning learning were reported collectively to be only moderately important—whereas these elements were reported as highly important by some groups.

3.1.5 | Graduation Scenarios

Respondents were then asked about how acceptable a range of graduating scenarios were to them. Figure 5 represents the collective response. Students qualifying with a varied portfolio of experience was seen as ideal, or at least 'acceptable' by all respondents. Fifteen percent of respondents were uncomfortable with students qualifying with specific areas of strength, but some *recognised* areas of weakness. Almost all respondents found the remaining options unacceptable:

- Students qualifying with areas of recognised weakness and no areas of specific strength.
- Students qualifying who are unsafe to perform certain clinical procedures independently (autonomously).

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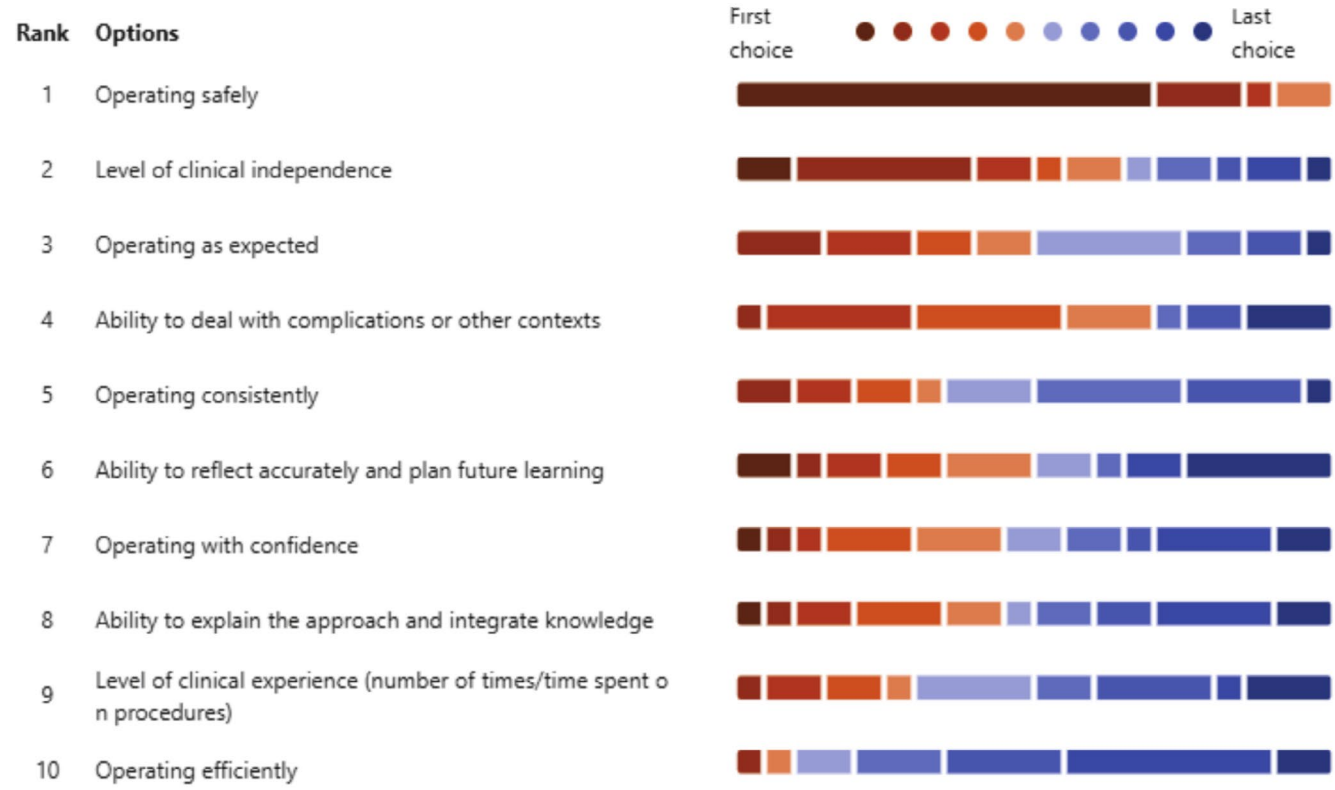

FIGURE 4 | Collective ranking of elements of clinical competence, according to their perceived importance by the stakeholder group.

FIGURE 5 | Collective acceptability of a range of graduating scenarios.

- Students qualifying who are unable to accurately self-reflect on their performance.

3.1.6 | Modes of Learning

Respondents were asked about various modes of learning. When considering the balance between clinical practice (simulation *and* patient-based) and supporting theory, the most important element was reported as a consistent balance between theory and clinical practice *throughout the duration of the programme*. No respondents supported the notion of intensive theory without clinics initially, even if this was replaced entirely by clinical practice in the later years.

In terms of clinical placements, respondents felt that the elements presented to them were largely of equal importance—namely: practising across a range of clinical environments, working in interdisciplinary teams (other health care professions), and experiencing working within primary care.

When considering the components of interprofessional education, the requirement to *actively share care* with other Oral Health Professionals (OHPs) was seen as the most important, followed by the requirement to *practice in teams* alongside other OHPs. Learning with, but not practicing alongside other health professionals—and practising in teams alongside *other* allied health professions, were seen as less important.

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3.1.7 | Engagement, Behaviour, and Progression

3.1.7.1 | Student Engagement. Respondents were asked how they felt student engagement should be determined. The results are shown in Figure 6. Unanimously, all respondents felt that *monitoring clinical activity* should be the main method of determining student engagement. The vast majority also felt that the following were important measurements for student engagement:

- Monitoring attendance and engagement (generally).
- Monitoring the use of learning environments and resources.
- Monitoring reflective activity.
- Monitoring preparedness for, and activity during, clinical sessions.
- Monitoring participation in group tasks.

Respondents felt that measuring engagement with the tutoring system, recording changes in patterns of attendance or submission of work, or monitoring how often students provided nursing or assisting duties for their colleagues was less important.

3.1.7.2 | Student Behaviours. Respondents were asked how they felt student behaviours should be observed over time. The results are shown in Figure 7. Greatest support was shown for behaviours related to:

- decision making
- infection control and safety
- communication and record keeping
- reflective practice and action planning

3.1.7.3 | Clinical Progression. Respondents were asked what they felt should be in place when determining student clinical progression to the next stage of study. The results are shown in Figure 8. Unanimously, respondents felt that *tracking of clinical activity* should be in place for determining progression. At least 75% of respondents also supported:

- Tracking of behaviours.
- Regular termly reviews of progress.
- Clear progression requirements.

3.1.7.4 | Support for Progression. Respondents were asked about which support mechanisms they felt should be in place to support students as they progress clinically, and they were able to select multiple options. The following mechanisms were selected:

- Systems to allow students to reflect and develop their own action plans (39%).
- Systems to allow students to raise concerns with themselves, colleagues, or staff (30%).
- Allocation of an individual clinical or personal tutor (30%).

3.1.7.5 | Clinical Assessment and Feedback. Respondents were asked what approaches should be used in relation to student clinical assessment and feedback. The results are shown in Figure 9. Reassuringly, at least 50% of respondents supported all of the suggestions, although greater support was shown for:

- Staff *verbal* reflections of each clinical encounter.
- Student *written self-reflection* of each clinical encounter.
- Staff *written* reflection of each clinical encounter.
- Student *verbal self-reflection* of each clinical encounter.
- Students using a structured reflective framework as opposed to a free-text box.

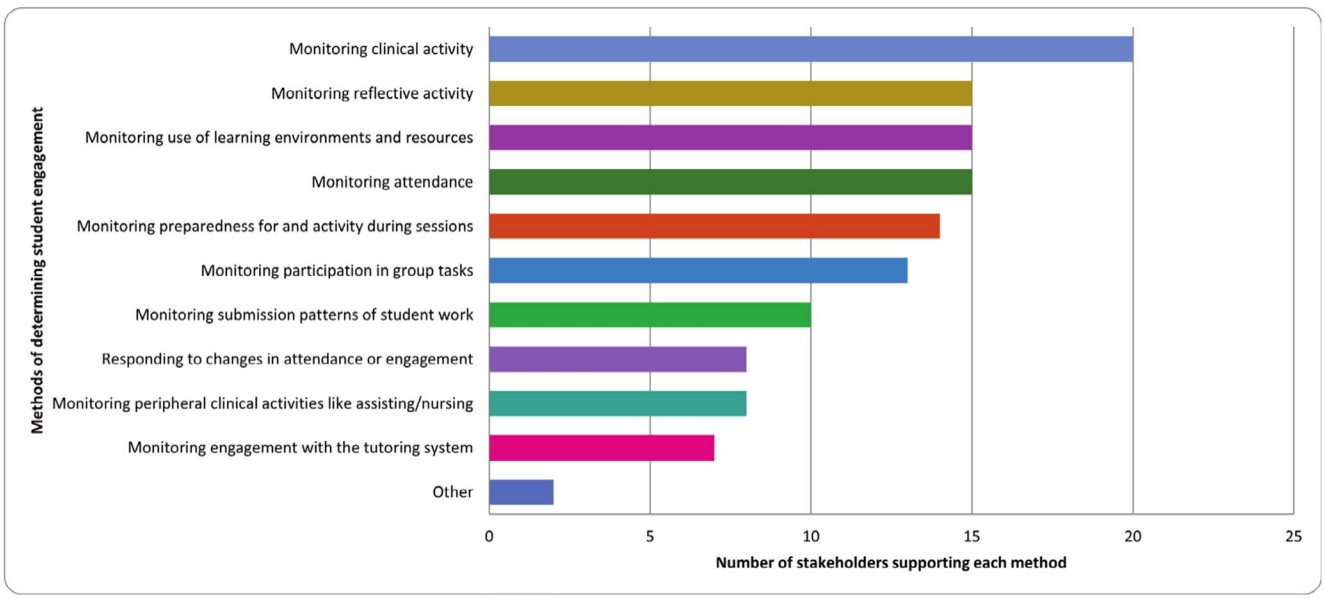

FIGURE 6 | Ways in which stakeholders reported that student engagement should be determined.

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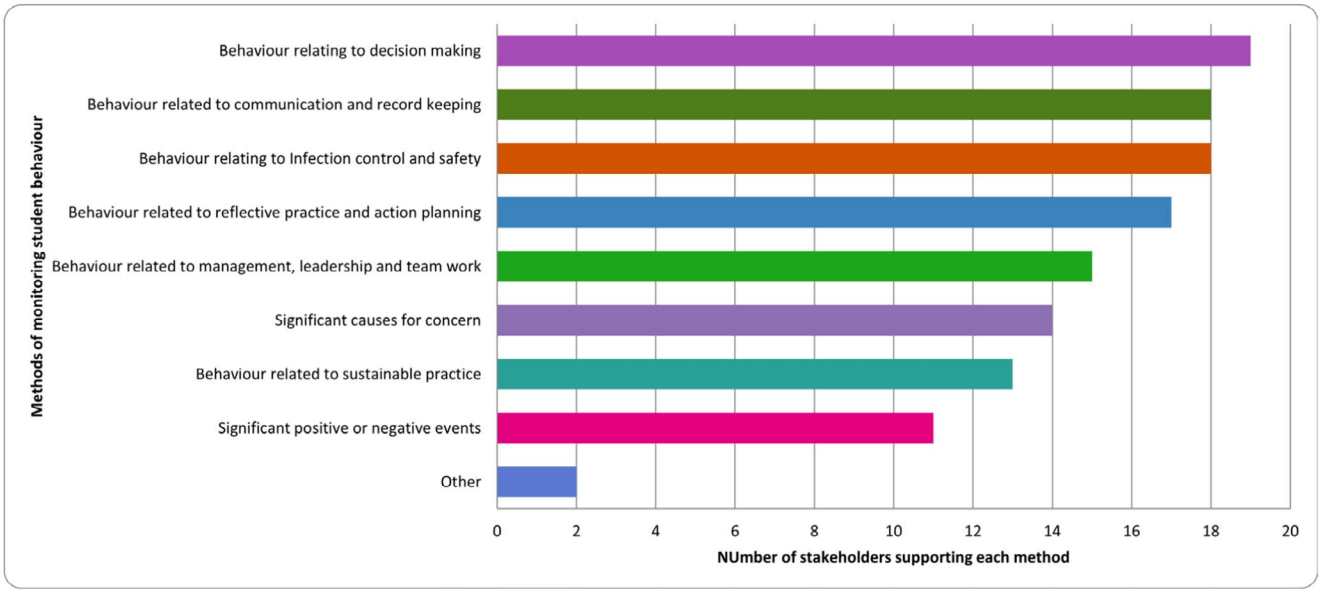

FIGURE 7 | Ways in which stakeholders reported that student behaviour should be monitored over time.

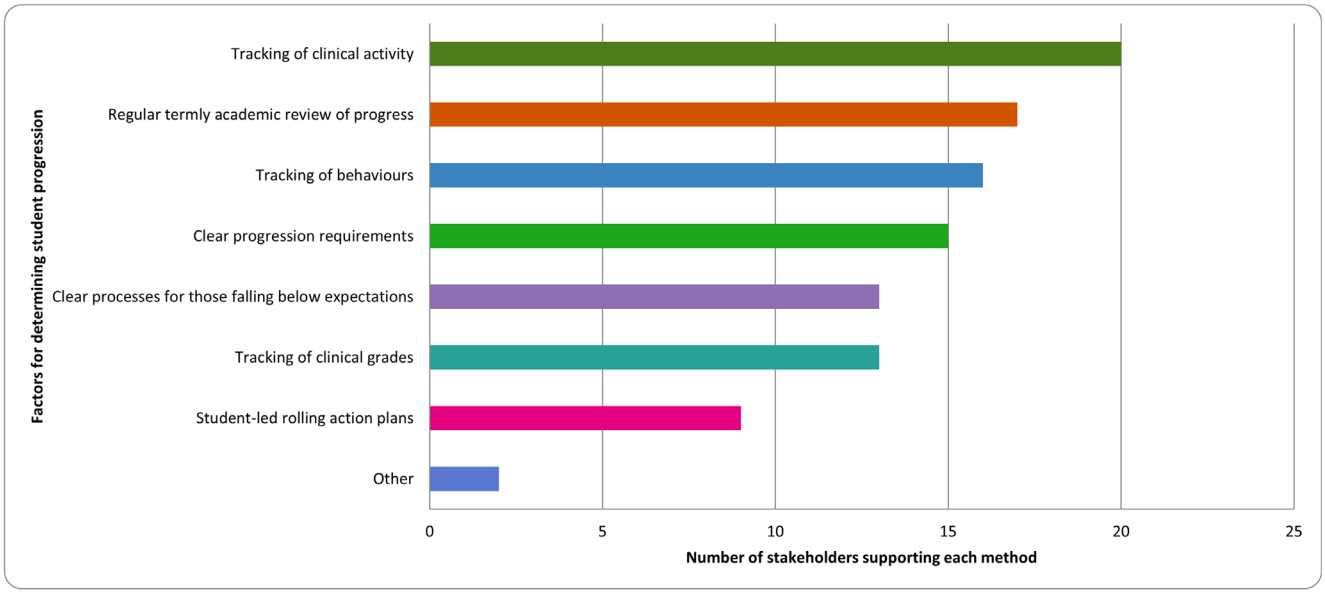

FIGURE 8 | Factors that stakeholders felt should be in place when determining student progression.

Attribution of a single generic clinical grade for the session was seen as slightly less important, as was the need for students to collect patient feedback on their treatments.

3.2 | Part 2: Interactive Workshop Session

A total of 29 people attended the in-person event—and their affiliations are reported in Table 1. 21 stakeholders responded to interactive polling questions created with Menti (Mentimeter AB, Stockholm) during the session.

3.2.1 | Clinical Workflows

Following some discussion around the pre-survey findings, attendees were asked to consider how important it is for a graduating dentist to be able to complete certain full clinical workflows autonomously, on real patients. This gathered a large amount of data—87 procedures across 13 clinical disciplines—which is displayed in Table 2. Unlike Delphi-style studies, which aim to reach consensus about the retention of survey elements reached across several rounds, the aim in this workshop was to capture the initial and unmodified opinion of each of the stakeholders. Given the known discrepancies across education providers, and their local populations, forcing an arbitrary cut-off point for agreement around clinical workflows, without the ability to cater for local context, or to carry out further rounds, was considered inappropriate. Further, respondents categorised elements into one of three categories, rather than scoring against a dichotomous scale. As such, where over 50% of respondents ranked the same degree of importance for a procedure, this was seen as a significant level of agreement.

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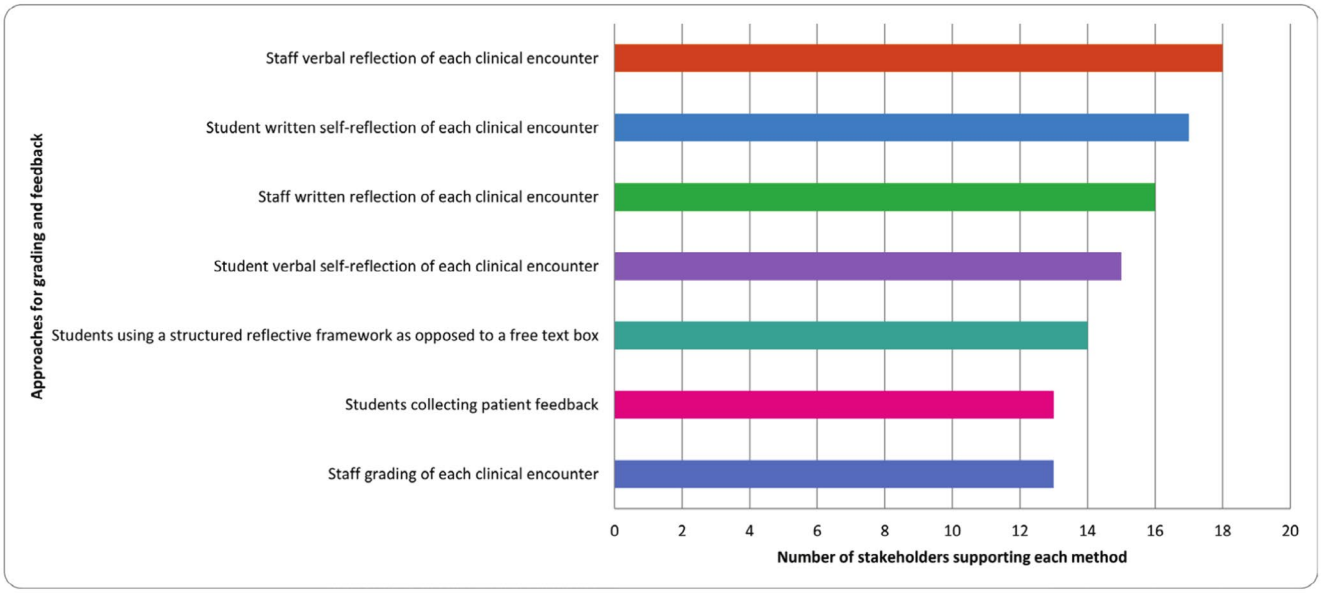

FIGURE 9 | Stakeholder views on what approaches should be used in relation to student clinical assessment and feedback.

FIGURE 10 | The delegate group.

Tables 3 and 4 show the clinical workflows and which procedures were deemed to be *essential, important, and aspirational*. For 24% of procedures ($n = 21/87$), there was no clear agreement about the level of importance. Whilst some felt these skills were essential, others felt they were only moderately important or even aspirational.

3.2.2 | Teaching Environment

Attendees were asked about various teaching environments, and how suitable they were for supplementing student progress. The number of attendees who reported these workflows as being acceptable is shown below

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TABLE 2 | Degree of agreement for each clinical workflow.

Discipline	Workflow	Importance (Essential, Moderate, Apirational)		
		E	M	A
Clinical assessment and treatment planning	Full oral health assessment – adults and children	82%	4%	14%
	Oral health assessment of patients with special needs*	41%	41%	18%
	Adult and paediatric treatment plan with consent	68%	14%	18%
	Treatment plan for patients with special needs	23%	50%	27%
	Taking intra oral radiographs	23%	50%	27%
	Taking OPG radiographs*	32%	45%	23%
	Plain film radiographic reports	68%	18%	14%
	CBCT reporting*	27%	27%	46%
Periodontal therapy and implants	Full periodontal assessment, diagnoses and treatment plan	77%	19%	0%
	Supra-gingival PMPR	95%	0%	5%
	Sub-gingival PMPR	68%	22%	5%
	Gingivectomy/electrocautery*	33%	33%	33%
	Surgical crown lengthening*	23%	32%	45%
	Implant planning and risk assessment*	45%	32%	23%
	Implant placement	14%	27%	59%
Peri-operative care	Infiltration anaesthesia	100%	0%	0%
	Block anaesthesia	100%	0%	0%
	BMI assessment*	38%	25%	38%
	Blood pressure monitoring	25%	50%	25%
	Venipuncture (taking blood)	13%	13%	75%
	Dental dam (rubber dam) placement	100%	0%	0%
	Dental photographs (intra and extra oral views)	50%	50%	0%
	Managing medical emergencies	88%	13%	0%
Prevention	Dietary assessment and advice	52%	20%	28%
	Tailored oral hygiene instruction	79%	4%	17%
	Smoking cessation advice	63%	17%	20%
	Alcohol advice*	46%	25%	29%
	Topical fluoride application	71%	17%	12%
	Fissure sealant	71%	17%	12%
	Silver Diamine Fluoride application*	42%	42%	16%

(Continues)

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TABLE 2 | (Continued)

Discipline	Workflow	Importance (Essential, Moderate, Apirational)		
		E	M	A
Direct interventions	Direct plastic restorations	95%	0%	5%
	Selective caries removal	82%	9%	9%
	Vital pulp therapy (pulp capping/pulpotomy)	68%	27%	5%
	Managing the pulp of immature teeth	64%	23%	14%
	Stainless steel crown*	36%	32%	32%
	Temporary restoration	95%	0%	5%
	Anterior composite build ups from a wax-up/stent	50%	27%	23%
	Prescribing and fitting whitening trays*	41%	23%	36%
Oral Medicine	Patient assessment and diagnosis	91%	5%	5%
	Treatment planning	64%	23%	14%
	Obtaining swabssamples and prescribing tests	55%	18%	27%
	Writing prescriptions	73%	18%	9%
Removable prosthodontics	Complete denture – conventional	64%	23%	14%
	Complete denture—copy*	45%	41%	14%
	Partial denture – acrylic	68%	23%	9%
	Partial denture – chrome	73%	18%	9%
	Immediate denture	64%	18%	18%
	Overdenture, natural teeth*	45%	36%	18%
	Implant-supported overdenture	18%	32%	50%
	Taking records for, and fitting hard & soft splints	55%	27%	18%
Indirect restorations	Full coverage crown	86%	14%	0%
	Cuspal coverage onlay	77%	18%	5%
	Inlay	64%	23%	14%
	Resin-retained bridge	64%	23%	14%
	Conventional bridge	95%	5%	0%
	Veneer	41%	55%	5%
	Temporary/provisional restoration	100%	0%	0%
	Implant restoration – single crown*	36%	36%	27%
Indirect workflows	Impressions for study models	100%	0%	0%
	Prescribing a diagnostic wax up	73%	18%	9%
	Intra oral scanning	77%	14%	9%
	Digital design of restorations*	18%	45%	36%

(Continues)

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TABLE 2 | (Continued)

Discipline	Workflow	Importance (Essential, Moderate, Apirational)		
		E	M	A
Endodontics	Primary root canal treatment, single root	100%	0%	0%
	Primary root canal treatment, multi root	71%	24%	5%
	Re-treat, single root	62%	29%	10%
	Re-treat, multi root*	33%	33%	33%
	Perforation repair	19%	29%	52%
	Retrieve fractured file	19%	19%	62%
	Direct post and core	86%	10%	5%
	Indirec (cast) post and core	67%	29%	5%
Oral Surgery	Adult forceps extraction	100%	0%	0%
	Paediatric forceps extraction	77%	23%	0%
	Surgical extraction*	41%	27%	32%
	Suture placement	91%	5%	5%
	Biopsy*	36%	27%	36%
	Periodontal flap design*	27%	41%	32%
	Raising and replacement of a periodontal flap	9%	23%	68%
Orthodontics	New patient assessment and IOTN	73%	27%	0%
	Treatment planning – simple removable cases*	32%	27%	41%
	Treatment planning—fixed cases	14%	23%	64%
	Removable appliance fit	18%	23%	59%
	Removable appliance adjustment	14%	32%	55%
	Managing broken removable appliances	18%	55%	27%
Sedation	Sedation assessment*	41%	32%	27%
	Sedation monitoring	27%	14%	59%
	Delivery of inhalational (RA) sedation	23%	14%	64%
	Delivery of intra-venous sedation	5%	9%	86%

Note: Marked green if agreement is equal to, or over 50%.
*Grey indicates a more disparate view.

- Incomplete clinical workflow, with no supplementary evidence—18% of attendees found this acceptable
- Incomplete clinical workflow, with some *equivalent* skills in the virtual environment—50% of attendees found this acceptable
- Incomplete clinical workflow, accompanied by reflective accounts of capability, and action plans for beyond graduation—59% of attendees found this acceptable.
- Incomplete clinical workflow, with some *equivalent* skills in the laboratory (phantom heads)—59% of attendees found this acceptable.

3.2.3 | Patient Groups

Attendees were asked about various groups of patients, and how important it was for students to have at least *some* experience of treating them. The number of attendees who felt that experiencing these groups of patients was *essential* is reported below

- Patients with well-controlled systemic disease—91%
- Patients who take multiple medications—77%
- Anxious patients—73%
- Patients with unstable systemic disease—55%

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TABLE 3 | Procedures deemed to be essential for a graduating European dentist to demonstrate independently.

Discipline	Workflow
Clinical assessment and treatment planning	Full oral health assessment—adults and children
	Adult and paediatric treatment plan with consent
	Plain film radiographic reports
Periodontal therapy	Full periodontal assessment, diagnoses and treatment plan
	Supra-gingival PMPR
	Sub-gingival PMPR
Peri-operative care	Infiltration anaesthesia
	Block anaesthesia
	Dental dam (rubber dam) placement
	Dental photographs (intra and extra oral views)
	Managing medical emergencies
Prevention	Dietary assessment and advice
	Tailored oral hygiene instruction
	Smoking cessation advice
	Topical fluoride application
	Fissure sealant
Direct interventions	Direct plastic restorations
	Selective caries removal
	Vital pulp therapy (pulp capping/pulpotomy)
	Managing the pulp of immature teeth
	Temporary restoration
	Anterior composite build ups from a wax-up/stent
Oral Medicine	Patient assessment and diagnosis
	Treatment planning
	Obtaining swabs/samples and prescribing tests
	Writing prescriptions
Removable prosthodontics	Complete denture – conventional
	Partial denture – acrylic
	Partial denture – chrome
	Immediate denture
	Taking records for, and fitting hard & soft splints
Indirect restorations	Full coverage crown
	Cuspal coverage onlay
	Inlay
	Resin-retained bridge
	Conventional bridge
	Temporary/provisional restoration

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TABLE 3 | (Continued)

Discipline	Workflow
Indirect workflows	Impressions for study models
	Prescribing a diagnostic wax up
	Intra oral scanning
Endodontics	Primary root canal treatment, single root
	Primary root canal treatment, multi root
	Re-treat, single root
	Direct post and core
	Indirec (cast) post and core
Oral Surgery	Adult forceps extraction
	Paediatric forceps extraction
	Suture placement
Orthodontics	New patient assessment and IOTN

TABLE 4 | Procedures deemed to be only aspirational for a graduating European dentist to demonstrate independently, including procedures where no clear agreement was demonstrated (light grey).

Discipline	Workflow
Clinical assessment and treatment planning	Oral health assessment of patients with special needs
	Taking OPG radiographs
	CBCT reporting
Periodontal therapy and implants	Implant placement
	Gingivectomy/electrocautery
	Surgical crown lengthening
	Implant planning and risk assessment
Peri-operative care	Venipuncture (taking blood)
	BMI assessment
Prevention	Alcohol advice
	Silver Diamine Fluoride application
Direct interventions	Stainless steel crown
	Prescribing and fitting whitening trays
Indirect restorations	Implant restoration – single crown
Indirect workflows	Digital design of restorations
Removable prosthodontics	Implant-supported over-denture
	Complete denture – copy
	Overdenture, natural teeth
Endodontics	Retrieving a fractured filed
	Re-treat, multi root

(Continues)

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TABLE 4 | (Continued)

Discipline	Workflow
Oral Surgery	Raising and replacement of a periodontal flap
	Surgical extraction
	Biopsy
	Periodontal flap design
Orthodontics	Treatment planning—fixed cases
	Removable appliance fit
	Removable appliance adjustment
	Treatment planning – simple removable cases
Sedation	Sedation monitoring
	Delivery of inhalational (RA) sedation
	Delivery of intra-venous sedation
	Sedation assessment

- Patients who require an interpreter—50%
- Patients who have mobility or dexterity issues—50%
- Patients who are unable to consent for themselves—45%

3.2.4 | Performance

Attendees were asked about the importance of monitoring aspects of student performance over time. The number of attendees who felt that each aspect was *essential* is reported below

- Technical ability to carry out clinical procedures—95%
- Knowledge of procedures—95%
- Student reflections on learning—86%
- Level of independence—77%
- Student ability to self-assess their work—77%
- Patient feedback—36%

3.2.5 | Core Skills

Attendees were asked about the importance of monitoring core clinical skills over time. The number of attendees who felt that each aspect was *essential* is reported below

- Infection control—100%
- Communication—100%
- Professionalism—91%
- Treatment planning and ability to consent—86%
- Reflective practice—86%
- Action planning—68%
- Management, Leadership and Teamwork—36%

3.2.6 | Capability vs Competence

The group returned to the concept of clinical competence—and the elements that they felt were most important in that regard (Figure 4). Discussion centred around some of the work by Lester [11] and Jain [12] relating to skills and workplace-based learning. The group recognised the fact that the normalised ways of demonstrating competence are usually relatively rigid and temporal—and are often unable to account for emerging contexts, and evolving or contested practice. Further, there is little scope for those being assessed to incorporate intelligent judgements and lived ethical practices, or to demonstrate adaptability to change [11]. Instead, Jain et al. refer to the concept of 'capability', which refers to having:

> justified confidence in one's ability to take appropriate and effective action to formulate and solve problems in familiar, unfamiliar, and changing settings.

Importantly, this shifts the focus of the encounter from clinical outcomes alone, to a more longitudinal and holistic view of the person who is expected to demonstrate the necessary skills. Judgements around capability are able to consider elements of clinical competence—but can also comprise many of the Framework elements considered by the group within the pre-event survey to be important. In turn, the taskforce, and associated stakeholders, encourage educators to consider various elements of 'capability' – a number of which are reflected within the final GED Framework.

Following further discussion, the group explored how some of the capability elements should be measured. Menti was used to collect data on the perceived utility of various methods for measuring particular constructs. The results are presented below.

3.2.6.1 | Measuring Safety. The proposed methods for measuring student safety were ranked as follows: with the most useful presented towards the top, and least useful towards the bottom:

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1. Student ability to self-assess their performance
2. Compliance with protocols and procedures
3. Knowledge of protocols and procedures
4. Student self-awareness
5. Communication with the patient and the team
6. Reflections on compliance
7. Number of adverse incidents.

3.2.6.2 | Measuring Clinical Independence. The proposed methods for measuring student independence were ranked as follows: with the most useful presented towards the top, and least useful towards the bottom.

1. Ability to foresee problems
2. Knowledge of protocols and procedures
3. Student self-awareness
4. Ability to deal with complications
5. Amount of assistance required
6. Reflections on confidence
7. Technical grades for clinical work

3.2.6.3 | Measuring Whether Students Are Operating as Expected. The proposed methods for measuring whether students are operating as expected were ranked as follows: with the most useful presented towards the top, and least useful towards the bottom:

1. Amount of assistance required
2. Technical grades for clinical work
3. Self-awareness
4. Time management
5. Ability to deal with complications

3.2.6.4 | Measuring Confidence in Students. The proposed methods for measuring whether students instilled confidence to deliver clinical care were ranked as follows: with the most useful presented towards the top, and least useful towards the bottom:

1. Logical treatment delivery
2. Decisiveness
3. Ability to deal with complications
4. Active communication with the team
5. Student self-assessment of performance
6. Timely treatment delivery

3.2.7 | Updating Clinical Training Standards

The stakeholders then discussed the idea of the Skills Portability Initiative, proposed by the European Commission, which aims to facilitate and strengthen the free movement of professionals and the automatic recognition process applying to the dental profession. The group was sensitive to the need for a unified or aligned dental education framework, to reduce fragmentation and diversity across European programmes. The standards set in EU law for the dental clinical training to be undertaken with patients have not been adapted since 1978 (Directive 78/687). As such, the stakeholder group agreed a number of recommendations outlined in Appendix A. These were disseminated after the event as the Copenhagen Declaration on Dental Undergraduate Training, published here on the ADEE website.

4 | Discussion

The multi-stakeholder events continue to highlight the often disparate opinions of relevant stakeholders. This highlights the statement of the original problem—and the importance of opening out discussions to the wider group, so that each group can better understand the others' positions. Rather than being seen as a barrier, these disparities should be respected—and the various views and drivers for quality and change, and political pressures, should be collectively explored.

It is the demonstrable view of the stakeholder group that a flexible framework is the most useful way of creating an acceptable standard for dental undergraduate education and training. The aim is not to produce a definitive list of procedures or targets, but instead to achieve a common agreement whilst respecting individual institutional, regional, and national variability. This report gives insight into the useful elements that comprise acceptable performance and progression—and what should comprise a minimum set of skills for a Graduating European Dentist.

The following are noted in particular:

- Clearly defined knowledge, skills and behaviours were seen as the most important elements of the GED framework.
- The number of full clinical workflows providing care to patients was seen as the most important element of a clinical portfolio—however, the number of times that individual clinical procedures had been carried out was seen as less important in terms of demonstrating student capability.

  These findings are welcomed, as they highlight the fundamental importance of a clear outcomes and behaviour-based curriculum. A distinction was noted between the number of times that students carry out specific procedures and the value placed on students experiencing the delivery of full clinical workflows on real patients—and their ability to carry these out independently. This suggests that there is value in recording and reporting both metrics rather than one in isolation.
- Stakeholders believed that recording student ability longitudinally against a set of core clinical skills was essential.
- Over 50% of stakeholders felt that student performance should be measured by technical ability to carry out clinical procedures, knowledge of procedures, level of autonomy or

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independence, ability to reflect on learning, and ability to self-assess their own work.

- Operating safely and the level of clinical autonomy or independence were seen as the *most* important aspects of how clinical capability should be rationalised.
- The most important longitudinal behaviours to monitor were reported as decision making, infection control and safety, communication and record keeping, and reflective practice and action planning.
- The most important indicators of student capability include student ability to self-assess their own performance, ability to foresee problems, amount of assistance required, and logical treatment delivery.
- Monitoring clinical activity was seen as the most important method for determining student engagement.

As institutions explore 'how' students should be monitored, and their progression determined, it is important to note these particular metrics. Schools are encouraged to consider developing and implementing longitudinal portfolios which track these metrics and, in turn, set standards for progression and early support for students falling below expected levels of performance or outputs. In terms of observable behaviours, it is important to note the apparent emerging value of 'core' or 'non-technical' skills (such as those incorporated into the DeNTS framework, from the Royal College of Surgeons of Edinburgh [13]*) as a tool for monitoring and supporting student development—and this should be a future area of focus as an educational tool.*

- When considering the balance between clinical practice (simulation and patient-based) and supporting theory, the most important element was reported as a consistent balance between theory and clinical practice throughout the duration of the programme.
- It is deemed unacceptable to graduate students with areas of recognised weakness and no areas of specific strength, students who are unsafe to perform certain clinical procedures independently, and students who are unable to accurately self-reflect on their performance.
- Incomplete workflows could be mitigated by a combination of demonstrating equivalent clinical/operative skills in the skills laboratory, reflective accounts of capability, and action plans for beyond graduation.

The stakeholder view supports the recommendations of the Nuffield report in 1980 [14]*, to increase the clinical exposure of dental students from the very early parts of their programmes. The fact that this is still not common practice across Europe* [15] *highlights the complexities with changing established programmes and integrations with clinics, particularly in larger hospital or partnered clinics. Nonetheless, the stakeholders supported the need for a consistent balance of theory and clinical practice throughout a programme. The importance and value of accurate self-reflection was recognised—and this element should, at least in part, be built into regular student activities in the skills laboratory and in the clinic. Stakeholders recognised the challenges of limited clinical and patient resources, and felt that incomplete clinical workflows could justifiably be substituted by students demonstrating some relevant skills in the laboratory, or in a simulated environment, so long as this was accompanied by an accurate self-reflection and an action plan of how these skills will be a focus for development in the future. It is the view of the Taskforce that this approach should only be used in a reactive way to deal with unforeseen or unmanageable circumstances—such as those presented during the COVID-19 pandemic—rather than a way of facilitating student progression when access to clinics, patients, or staffing is limited.*

- When considering the components of interprofessional education, the requirement to actively share care with other OHPs was seen as the most important, followed by the requirement to practise in teams alongside these OHPs.
- Over 50% of stakeholders felt that students should experience treating patients with well-controlled systemic disease, patients who take multiple medications, anxious patients, and patients with unstable systemic disease.

Despite variability across Europe in the training, regulation, and utility of wider Oral Health Professionals (Dental Hygienists and Dental Therapists), the stakeholder group recognised the value in students being able to actively share care with the wider OHP team prior to graduation. This is reassuring, in that it mirrors the necessary workplace-based skills that form the basis of effective team working and resource management within clinical practice. The group also felt that graduates would benefit from *the ability to recognise and have some (at least) limited experience of treating more complex patients—and once again, the value here is in ensuring safe and holistic patient care, where the graduate makes optimal use of the healthcare system in which they are operating.*

5 | Summary

This second multi-stakeholder meeting explored opinions relating to the importance of various clinical domains, metrics and markers when monitoring student progress and student capabilities. This report gives insight into the useful elements that comprise acceptable performance and progression—and what could comprise a minimum set of skills for a Graduating European Dentist. This data will help to formulate the next round of multi-stakeholder discussions to determine a more broadly acceptable common portfolio of practice—based around each of the GED Framework elements. This report also makes reference to the elements outlined in the Copenhagen Declaration on Dental Undergraduate Training, published collectively by the stakeholders, following the event.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

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Appendix A

Copenhagen Declaration Recommendations

In accordance with both 2026 Council Recommendations on human capital in the EU & 2024 Council Recommendations on attractive and sustainable careers in higher education, to

- Renew efforts for capacity building within the dental education workforce. This includes increasing staffing levels (among which, qualified instructors and clinical supervisors) to improve clinical teaching ratios and ensure sufficient allocation of financial resources for undergraduate training and training infrastructures.

In compliance with Directive's provisions on updated skills, to

- Introduce in the Directive's Annex the request for an electronic portfolio of study. In line with the EU Skills Portability Initiative, this should capture all of the practical and theoretical competencies acquired in undergraduate dental studies and help to ensure consistent monitoring of student development towards graduation.
- Distinguish and recommend a ratio between theoretical and practical clinical training, including direct patient care under the Directive, incorporated under the "at least 5 000 hours of full-time theoretical and practical training".
- Strengthen minimum practical training requirements by introducing a list of fields of clinical practice under Annex V (5.3.1)
- Establish recommendations for ways in which students are monitored, and minimum standards are set during their practical training hours
- Regularly update the subject list in Annex V of the Directive's Annex V to ensure that dental programmes remain aligned with scientific advancements.

In accordance with Directive's provisions on updated skills & the 2026 Council Recommendations on human capital in the EU, to

- Update Article 55 of the Directive to extend provisions to all dental practitioners, regardless of their country of qualification, in relation to « in-service training and/or a period of professional experience in order to be approved by a health insurance fund » organised in some Member States.

In keeping with the European Education Area's development, to

- Encourage measures to standardise the monitoring of student performance that align with the wider group's understanding of the term 'competence' and how it can be best adapted to suit individual institutional and local population needs.
- Establish a common EU accreditation scheme for dental programmes to ensure a minimum common standard in the quality of dental education and encourage the free movement of dental students and professionals.

In keeping with 2023 Commission Recommendation on the recognition of qualifications of third-country nationals, to

- Encourage Member States to incorporate national support programmes into the recognition process for foreign dental qualifications, including supervised clinical practice and training modules on the structure and functioning of the national oral healthcare system.

In line with European Court of Auditor's recommendations, to

- Establish the use of the Directive's EU alert mechanism across all EU Member States, particularly in cases involving professional sanctions, suspected clinical misconduct or false diplomas in the home country.

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