An innovative interprofessional dental clinical learning environment using entrustable professional activities

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Abstract

Introduction: Changes in society, new public demands for dental care and contemporary educational insights have influenced dental education worldwide and demand a renewed perspective. Following this perspective, an innovative interprofessional dental Master curriculum was developed at Radboud University Nijmegen in the Netherlands.

Educational principles: The curriculum is based on five contemporary educational principles and the core of the curriculum consists of a Student Run Dental Clinic that is fully run by students under professional supervision.

The new curriculum: In the Student Run Dental Clinic, Master dental students and Bachelor oral hygiene students are responsible for the care of approximately 750 patients. The students work within the same clinic for 3 years and patients receive oral health care from the same students over a long period. The clinic is a longitudinal cross-disciplinary clinic with different dental subdisciplines.

Entrustable professional activities (also known as EPAs), to our knowledge not yet widely used in dental education, were introduced to facilitate learning and assessment. Fourteen EPAs have been developed to stimulate interprofessional education and learning. Of these, five EPAs are identical for the dental and oral hygiene curriculum, leading to extended interprofessional education and learning in the Student Run Dental Clinic.

Discussion: Preliminary results show that EPAs are generally well received by supervisors and students.

Conclusion: To monitor and investigate the exact effect of the interventions and underlying mechanisms, a research programme on interprofessional learning, practice-based learning and EPAs and entrustment in dental education was recently set up.
1 | INTRODUCTION

Changes in society, new public demands for dental care, and contemporary educational insights have influenced dental education worldwide. These factors and the wish to improve the dental Master curriculum of the Radboud University in Nijmegen have inspired staff and students of the dental department to design and develop an innovative and futureproof Master curriculum.

Presently, most dentists in the Netherlands work in group practices where they work interprofessionally with specialised dentists, oral hygienists and dental (prevention) assistants. Between 1999 and 2018 the percentage of solo practices decreased from 76% to 44% and it is expected that the vast majority of these practices will vanish in the coming decade.2 In other countries, similar developments have taken place.2-4 This shift is a result of societal changes such as demographic changes, the movement towards patient-centred care, a shortage of dentists and oral hygienists, and in the Netherlands, a subsequent government-driven rearrangement of tasks and task differentiation. Consequently, dental practices have become larger, with more subdisciplines working together. It is considered that this leads to better continuity of care, a better answer to the current public care demand, and optimised collaboration amongst the professionals involved.

Societal changes and the ongoing developments within the dental profession demand a renewed perspective on dental education. Future dentists need to be lifelong learners not only to develop professionally but also to be able to adapt to societal trends and changing concepts of health care. Society needs care professionals that in addition to technical skills have flexible thinking skills to support creativity and innovation5 so that they are able to reflect on their own behaviour and on the dental profession as a whole.

In reaction to the above-mentioned trends, a new Master curriculum in Dentistry for the Radboud University was developed in 2016 and 2017 and implemented in 2017. This curriculum is consistent with the 2017 competency framework for European undergraduate dental education6 and is based on five educational principles: (1) practice-based learning in a longitudinal integrated clerkship, (2) interprofessional education, (3) competency-based education and entrustment, (4) self-determination and self-regulation and (5) lifelong learning professionals.

Dutch dental curricula consist of a six-year programme (three years Bachelor and three years Master), leading to the legally protected and officially recognised professional title of dentist. Graduated dentists have to register in the Dutch BIG (Beroepen Individuele Gezondheidszorg; Professionals in Individual Health Care)7 register, after which the starting professionals can proceed to independent practice. From the day of their graduation, all dentists should be trusted to perform the clinical work relevant to their profession. This requires medical, clinical, and scientific knowledge; technical and non-technical skills; professional development; and reflection skills.

In this paper, the new Master curriculum is presented, starting with the five educational principles followed by the development process and outcome of this process: a Master curriculum with a Student Run Dental Clinic (SRDC), in which entrustable professional activities (EPAs) facilitate guidance and students’ learning. While the curriculum is interprofessional, the focus of this paper is on the dental curriculum and the dental student. The paper concludes with a preliminary evaluation of the curriculum and an evaluation of the educational principles and the way EPAs are used, leading to suggestions for future analyses.

2 | EDUCATIONAL PRINCIPLES OF THE RADBOUD UNIVERSITY MASTER CURRICULUM DENTISTRY

In order to educate dental students to be competent dentists, five educational principles were formulated that would stimulate this development. The curriculum is based on these educational principles that are briefly explained in this section. Next, we focus on the first three principles.

2.1 | Practice-based learning in a longitudinal integrated clerkship

One of the main objectives of the new Master curriculum is to offer students an authentic learning environment so that they acquire experience in working with patients that present a wide variety of dental conditions, congruent with future practice after graduation. Real practice is the starting point for learning. In accordance with the principles of practice-based learning, students are enabled to obtain knowledge during daily practice and at the same time to apply this knowledge in real-life situations in the clinic.8

A way of achieving this is to create a clinical setting that is based on the characteristics of longitudinal integrated clerkships (LICs). In an LIC, students spend the substantial period of at least one academic year in a clinical setting where clinical activities and learning go hand in hand with providing patient care.9 It has been demonstrated that working in LICs positively influences the learning process, the care taking of patients and the well-being of supervisors.10

2.2 | Interprofessional education

Because an increasing number of dentists work interprofessionally in group practices, the Master curriculum should prepare future professionals for efficient delivery of adequate interprofessional care, where different roles and responsibilities are utilised to improve healthcare outcomes. This applies not only to dental care, but also increasingly to a wider healthcare network.11 In the past two decades, so-called interprofessional training wards (ITWs) have been established worldwide and literature reports on promising results in short-term student learning outcomes and patient satisfaction rates.12 For interprofessional teams to work effectively, it
is important that members recognise, respect and draw upon the strengths of each of the disciplines. It has been suggested that formal partnerships between dental and dental hygiene programmes, specifically in clinical settings, should be established.

### 2.3 Competency-based education and entrustment

According to Peters et al., competency-based medical education has evolved as a popular approach to clinical training in many countries. Within a competency-based medical education framework, the required proficiency and outcomes of training are based on the needs of patients. Literature states that learning and assessment work best when they are integrated activities. They ultimately contribute to the decision-making process about whether a student is ready to make the transition to being a registered accountable dentist, all without losing sight of the need for protecting the public.

The use of EPAs is emerging in the assessment of medical trainees. EPAs are eminently suitable for integrating learning and assessment because they make the connection between education and patient care. Making this connection is an important goal of the new Master curriculum because it improves the learning process, the quality of care, and the quality of our educational programme. EPAs, being units of professional practice that can be entrusted to a sufficiently competent learner, offer the advantage of being directly observable and measurable. The use of EPAs encourages integration of knowledge, skills and attitudes into authentic professional tasks and guides both the supervisor and the learner to prepare for independent practice by trust and entrustment decisions.

### 2.4 Self-determination and self-regulation

To make students responsible for their own learning process, it is important to stimulate intrinsic motivation and to encourage students’ self-determination and self-regulation. Key elements in this process (competency development, autonomy and social relatedness) are all essential for learning. In the Master curriculum, we expect that these elements help students to develop an attitude of “autonomous self-regulation” that includes identified, integrated and fully intrinsic regulation.

### 2.5 Developing lifelong-learning professionals

Finally, the Master curriculum aims at encouraging students to learn not only during their time at the University but for the rest of their lives because developing professional competencies in higher education is increasingly considered a matter of lifelong development. The future is uncertain: as complete traditional professional fields fade out and new ones emerge, flexible learning trajectories are needed. Curricula should facilitate a professional attitude towards lifelong learning, emphasise the need to be a lifelong learner and teach skills to become a lifelong learner.

### 3 THE NEW CURRICULUM

A Master curriculum that educates dentists to deliver optimal oral health care based on the five educational principles outlined above was developed. Additional requirements for the clinical workplace were the integration of emergency treatments and intakes of new patients, and the wish to pay more attention to academic clinical reasoning by integrating science and practical work.

An extensive blueprint for the new Master programme was written by the director of the Master programme, using extensive input from staff and students. This blueprint included the development of (1) the SRDC; (2) EPAs and Rubrics; (3) a new administrative system; (4) (examination) rules and regulations; (5) education concerning professional development and skills; (6) a new course on dental geriatrics; (7) peer-feedback; and (8) 3D and e-learning. Eight working groups, which comprised educational specialists, supervisors and students, were set up to elaborate further development of the key elements of the new curriculum. A strict working process ensured that the new curriculum was fully developed in June 2017, enabling the curriculum to start in September 2017. The main improvement in the core of the curriculum is the introduction of the SRDC and the use of EPAs, both embodying the previously mentioned educational principles.

#### 3.1 The Student Run Dental Clinic

The SRDC, where most of the clinical work in the Master curriculum takes place, is a purposefully designed environment for competency-based and workplace-based learning. It is a dental clinic run fully by students under professional supervision of supervisors which are still legally and professionally responsible for the patient care. During two clinical sessions (in total 8 h) per week, all students work together in teams of approximately 11 dental students (1st, 2nd and 3rd year Master students) and five oral hygiene students (3rd and 4th year Bachelor students). Each independent team of students is responsible for the care of approximately 750 patients. In total, there are 18 teams providing care for approximately 13,500 patients. Besides working in the SRDC, dental students take part in skills training (4 h per week in 1st and 2nd year), follow an elective clinical minor (8 h per week in 2nd and 3rd year), and participate in external internships (several weeks in 1st, 2nd and 3rd year). The remaining time is spent on the development of non-clinical competencies, which includes academic clinical reasoning, professional development and scientific skills (including a research project and writing a Master thesis). The SRDC waives the classical year system because students of different year groups work together in a team, performing treatments that they have been entrusted with by supervisors. In this system,
entrusted students can support the supervisors in educating less experienced peers, whilst learning ways to teach their peers. On the basis of the individual competencies, skills and learning objectives of the particular student, each student takes care of a group of patients with different dental conditions. In principle, the students may treat all patients assigned to the team, but to provide patients with continuity of their caregivers over the years, one of the students (the so-called case manager) is primarily responsible for the communication and contact with a particular patient. This student is also responsible for a written treatment plan, which is provided to each patient. Each treatment plan is presented and discussed in an interprofessional weekly seminar—called Academic Clinical Reasoning—with all the students of the team. If a treatment plan includes treatments that are too complex for the particular student and does not match with actual competencies, the patient is “referred” to a student in the team who has already acquired the necessary competencies. In this way, students are able and allowed to function at their own level whilst concurrently enabling the continuity of care for each individual patient to improve. The actual treatment can be carried out by other students in the SRDC, but only after consultation with the case manager.

Dental students in their last year of study play a special role in the SRDC. On rotation, one of them is allocated the role of chief of the day. The chief of the day organises a briefing at the start of each practicum and is responsible for (the planning of) intakes, emergency treatments, treating patients of students that are absent and organising four-handed dentistry if required.

To our knowledge, the Radboud University SRDC is unique in its kind: in most (medical and dental) undergraduate programmes students perform clinical work in different departments with differently specialised supervisors. In the SRDC, students work within the same clinic for three years and patients receive oral health care from the same students over a long period. The clinic is a longitudinal cross-disciplinary clinic with different dental subdisciplines. In this way, both students and supervisors can benefit from each other’s knowledge and skills.

3.2 Entrustable professional activities in the Student Run Dental Clinic

EPAs were developed to facilitate learning and assessment in the SRDC. Introduced in 2005, EPAs are units of professional practice that can be fully trusted to learners once they have demonstrated the necessary competence to execute the activity unsupervised. Literature shows that EPAs operationalise competency-based education and facilitate learning and guidance of learning in clinical workplaces. When developing an EPA framework, a list of reserved procedures is generated that outlines the tasks graduates are expected to perform independently after training. Each EPA represents a discrete unit of professional practice that is independently executable, observable and measurable. EPAs offer supervisors a way to objectivate and develop trust in what students do.

Initially, EPAs were developed for post-graduate programmes and advanced training of medical specialists. Current research on the effect of using EPAs mainly focusses on post-graduate programmes. However, various authors have suggested that EPAs should be suitable for undergraduate training as well. Although EPAs are widely used in different contexts, Gerhard-Szep et al. found no documented instances of the use of EPAs in dental medicine. Despite this lack, they concluded that, compared to other assessment formats, the EPA format seems to represent an innovative approach with great future potential for assessing practical skills in complex situations in dental education. Today, dental education is in the early stages of exploring the feasibility of EPAs. The University of Michigan School of Dentistry, for example, introduced an initiative for adopting EPAs in predoctoral education programmes in 2018. Recently, a group of faculty members of the University of North Carolina Adams School of Dentistry developed an EPA framework. Researchers from this group argued that the EPA framework offers a viable solution for garnering trust within the dental profession, however, they also suggest additional research to explore how the EPA framework can be further developed in predoctoral and post-graduate dental educational programmes.

Besides above-mentioned reasons to introduce the EPAs in the SRDC, one of the additional reasons was to develop a flexible curriculum and to make just-in-time learning efficient and meaningful. The former curriculum was based on a specified number of different dental treatments that students had to carry out each study year in order to proceed in their education. But time needed to attain each outcome varies amongst learners. Allowing for this variability is demanding and not yet common in medical curricula but in our view it is necessary to facilitate learning for the contemporary student.

Furthermore, our intention was to give the responsibility for learning to the student and to provide an opportunity for the development of a professional identity and an attitude of lifelong learning. As stated by Ten Cate, proper use of EPAs leads to competency-based medical education that merges with competency-based medical practice. Entrustment then initially materialises in the Bachelor and Master’s degrees but continues as careers continue. This may lead to a true continuum in medical education from undergraduate level until retirement.

3.3 Development of the EPAs

One of the working groups and an expert panel developed 14 EPAs, including components and criteria for each EPA (Table 1), in which the worldwide adopted CanMEDS’ roles (descriptions of the abilities that physicians require to meet the healthcare needs of the people they serve effectively) are fully integrated. The expert panel was a multidisciplinary group of faculty members (supervisors of both the dental and oral hygiene programme, including specialists from all dental subdisciplines), students and educational specialists.
| EPA | Subject | Component | Criterium |
|-----|---------|-----------|-----------|
| 1   | Diagnostics and evaluation | 4.1 | UNSATISFACTORY |
|     |         |           | Providing information and counselling the patient |
| 2   | Treatment plan process | 4.2 | UNSATISFACTORY |
| 3   | Acute care/pain/trauma | 4.3 | NON-OPERATIVE |
|     |         |           | Instructing the patient |
|     |         |           | Non-operative intervention |

**TABLE 1** The 14 Entrustable Professional Activities of the Student Run Dental Clinic

- **4.1 Providing information and counselling the patient**
  - UNSATISFACTORY
  - I do not focus my information and guidance sufficiently on the patient.
  - I do not take sufficient account of the level of understanding and the wishes of this specific patient. I do not use motivational conversation techniques.

- **SATISFACTORY**
  - I take into account the level of understanding and the wishes of the patient.
  - I'm not fully able to focus my information / guidance on this specific patient. By and large I use motivational conversation techniques.

- **GOOD**
  - I take into account the level of understanding and the wishes of the patient.
  - I focus my information and guidance on this specific patient. I make appropriate use of motivational conversation techniques.

- **5** Periodontal treatment
- **6** Endodontic treatment
- **7** Direct restorative treatment
- **8** Indirect restorative treatment
- **9** Fixed Prosthetic treatment
- **10** Removable Prosthetic treatment
- **11** Oral care for special care groups
- **12** Treatment of orofacial function and dysfunction
- **13** (Interceptive) orthodontic treatment
- **14** Surgical procedures and treatment

*Trans-disciplinary EPA.
*Components and criteria available on request.*
The EPAs that were initially suggested were based on the Dutch Framework for Dental Education and European curriculum guidelines. During the curriculum redesign project, frequent group discussions on the EPA framework were held. The working group asked for and received feedback from the stakeholders. After defining the content of the EPAs, the working group and expert panel developed underlying components and criteria. Eventually, digital EPA forms were designed, consisting of up to four components for the “technical aspects” of a particular treatment and opportunities for reflection on professional development. As an example, in Table 1, the components and criteria for EPA 4, Prevention, instruction and advice, are elaborated. Clinical protocols, as much as possible based on evidence, are underlying to all components and criteria. These protocols determine the way the activities are to be carried out.

To stimulate interprofessional education and learning, five EPAs are trans-disciplinary: they are identical and used similarly in the dental and oral hygiene curricula. Apart from a few trans-disciplinary EPAs, described for primary care training, trans-disciplinary EPAs are novel in the medical and dental field and have to our knowledge not been described yet.

Although EPAs are strongly applicable in dental education, the modified entrustment-supervision scales that Ten Cate et al. specifically suggest for undergraduate medical education are not entirely suitable for the dental context. This is because students starting in the SRDC are technically sufficiently skilled, are used to performing treatments based on protocols and have some experience in treating patients during their Bachelor educations. Besides this, in dentistry, the mouth is often too small to have a student watch whilst the expert performs the oral treatment. For these reasons, adaptations of the entrustment-supervision scales for dental education have been suggested. These are presented in Table 2.

### Table 2: Suggested Entrustment-Supervision Scale in a Dental Context

| Level # | Supervision Scale | Explanation |
|---------|-------------------|-------------|
| Level 1 | Direct supervision - preclinical situation under supervision | The student performs in a preclinical situation (for example a basic oral examination of a peer) under supervision. |
| Level 2 | Direct supervision – all steps are monitored in real time | The student performs in a clinical situation. Before acting, the student describes each step. The student only performs an action after approval of the supervisor. Every result of an action is checked by the supervisor. The student only proceeds to the next step after the supervisor has given approval. |
| Level 3 | Indirect supervision – main steps are pre-briefed and debriefed | The student performs in a clinical situation. The student has agreed beforehand with the supervisor about which steps will be checked prior to an activity and which steps will be checked immediately after an action has taken place. |
| Level 4 | Indirect supervision – treatment and treatment plan are discussed prior to encounter and result is checked before the patient leaves | The student performs in a clinical situation. The student has discussed beforehand what actions will be performed and starts after a general approval from the supervisor. The student evaluates all actions on process and result and reports relevant issues to the supervisor. The final result is checked by the supervisor before the patient leaves the clinic. When in doubt about what is best to do, at all times the student will ask the supervisor for help or advice. |
| Level 5 | Indirect supervision and peer supervision – as Level 4 and furthermore the students supervises a junior peer | Same as in Level 4, and the student coaches less advanced students |

4 | Working with EPAs in the SRDC

In the SRDC, students work with EPAs in each practicum, which are held twice weekly. They complete one EPA form digitally after each session, even though they might have performed several treatments or treated more patients during the session. Before the start of each practicum, students decide which EPA they are going to complete, based on their own learning needs. During the practicum, narrative feedback is given by the supervisors because in workplace-based assessment it is essential that feedback is given during or just after the treatment of a patient.
At the end of the practicum, students assess themselves and reflect on technical aspects and professional behaviour. They send their completed EPA form digitally to their supervisor and immediately after that they discuss the EPA, including the self-assessment and the supervisor’s feedback. The supervisor then evaluates the self-assessment and completes the form with additional feedback (on technical and professional behavioural aspects). In this way, trust in the students can gradually be fostered, based on the work they have shown in the past practicums and the confidence supervisors give them for future practices.

The students build up an extensive portfolio of EPAs, which includes self-assessment and assessments by supervisors. In the e-portfolio system, data per student are aggregated into dashboards and used to generate benchmark data. In total, after three years of participating in the SRDC, each student has approximately 240 completed EPA forms in her portfolio. Consecutive assessment and feedback, provided after each practicum, leads to gradual grading on the entrustment scale.

In order to monitor and evaluate the SRDC and the use of EPAs, half-yearly evaluations have been carried out. Preliminary results concerning supervisors’ and students’ views on working interprofessionally in the SRDC and working with EPAs in the SRDC have been published and presented at international conferences. The most important outcomes, including questions for future research, are presented in Table 3.

5 | DISCUSSION

This paper describes the development of and first experiences with the Radboud University SRDC and the use of EPAs. We have been able to develop an SRDC in which the five educational

| TABLE 3 | First experiences with SRDC and the use of EPAs as published in a paper and in conference abstracts and presentations and questions for future research |
|---------------------------------------------------------------|
| Research question | Study design | Preliminary findings and impressions | Remaining research questions |
| Interprofessional education and collaboration | Qualitative study | ○ The program resulted in more understanding amongst dentists and dental hygienists of each other’s interprofessional roles. ○ In practice ‘novice’ dentists and dental hygienists face difficulties in applying the interprofessional roles. | How can novice dentist and dental hygienist students best be taught in interprofessional collaboration? |
| What are the perceptions of dentists and dental hygienists regarding own and each other’s roles in interprofessional collaboration? | Qualitative study | ○ Dental students mainly see dental hygiene students in a supporting role and consider themselves more competent in their shared competence area. ○ Dental hygiene students see a directing role for themselves in patient care and consider themselves to be as competent as dental students. | Would it be more beneficial for students to start interprofessional learning at an earlier point in their study programs? |
| How do dental- and dental hygiene students see their role when working interprofessionally? | Qualitative study | | |

| Entrustable Professional Activities: introduction and students’ opinion | Digital Questionnaire | ○ The introduction of assessment with EPAs was generally well received. ○ The teacher’s administrative load in the assessment process is a point for attention. | How did supervisors experience the introduction of EPAs? Is there a growing curve in the use of the assessment procedure? |
| What are the first experiences (after one year) of students regarding the SRDC and working with EPAs? | | ○ Overall mark: 7.8 ± 0.38 on a scale of 0–10. ○ Working with EPAs enhances both technical (dental) skills and professional development. ○ Higher appreciation of additional learning possibilities for perceived difficult tasks. ○ Students in their first year in the SRDC appreciate working and learning with EPAs most. ○ Some students experience administrative burden. | Perception of students concerning the use of EPAs. What are differences experienced in the 1st, 2nd and 3rd year and how can supervisors facilitate learning best? |
| How do students evaluate working in the SRDC and working with EPAs in the SRDC? | Digital questionnaire | | |
| Patient care in SRDC | Document study | ○ Patient flow and financial turnover of the SRDC are higher than in previous situation. ○ Patients report fewer complaints. | How do patients experience the SRDC and working with EPAs? |
principles mentioned above are implemented. The first two principles, practice-based learning in an LIC and interprofessional learning, are clearly manifest in the SRDC. Students and supervisors work interprofessionally in the SRDC daily. The long-term outcome of this and the generalisation of interprofessional work into practice after graduation (with challenges in applying the interprofessional roles) are suitable subjects for future research. From the experiences of both supervisors and students, we consider the longitudinal character of the SRDC of high value to the students' learning process. This seems especially so because supervisors have found that they can make entrustment decisions better once they have known the students for a longer period. Although supervisors rotate amongst student teams every year, supervisors work closely together so that relationships can be developed. However, evidence on the learning efficiency of students in LICs is scarce and literature contains mainly descriptions of current practices in a concrete practical context without underlying educational research.

The third principle concerns competency-based education and entrustment. The SRDC is entirely competency based and there is abundant evidence in literature that competency-based education is effective in the medical field. The biggest challenge for our new curriculum, however, was to develop a way of assessing students that would contribute effectively to entrustment and to the decision about whether a student is ready for registration and independent practice. We chose EPAs to facilitate this process and found that the use of EPAs, including the adapted levels of entrustment (presented in Table 2), seems to work well in the SRDC. In literature, several entrustment-supervision scales have been presented although not yet for the dental context. To our knowledge, structured analyses of the use of the adapted scales for the dental context have not yet been carried out.

To our knowledge, the use of EPAs in an SRDC is unique worldwide. We envision that the way EPAs are used in our SRDC can be adapted to the specific environment in which they are to be applied. The overall experiences of our students concerning working with EPAs are positive. Currently, introduction of EPAs in the Bachelor and Master curricula is being investigated in all dental schools in the Netherlands.

Requirements for the fourth principle, self-determination and self-regulation, have theoretically been met, but to what extent this principle is effective in daily practice is still a subject of study. Students regulate their own learning process more than before by choosing an assessable treatment and completing a matching EPA in each practicum. The use of EPAs allows for a more flexible curriculum and students have different and new responsibilities, for example in the role of case manager and chief of the day.

With regard to the fifth and last principle, lifelong learning, we expect that the way the curriculum is designed to include the use of EPAs may serve as a basis for continuing education after graduation. Graduated students already indicate that the use of EPAs helps them to be critical about their professional work and to be aware of their own capacities and limits related to patient care. Reflections based on EPAs provide students and professionals a foundation for further professional development. We expect that working with EPAs will guide a student’s learning process, the development of a professional identity and lifelong learning.

The outcomes of working in an SRDC and the effects of using EPAs in the dental field are not yet established. Systematic monitoring is needed to evaluate whether the outcomes are still in line with the demands from the work field. This monitoring is considered necessary to prepare for future changes and differentiation in tasks of dentists and other dental workers. We presume that an increasing number of dental schools may consider the implementation of EPAs and interprofessional dental clinics, and hope that knowledge of the use and mechanisms of working with EPAs in dental curricula will have an impact on oral health care and dental education.

In the Radboud University dental school, the new curriculum has changed the way both students and supervisors work in the daily clinic. However, the exact effects of the interventions and underlying mechanisms responsible for the expected outcomes of the curriculum are still unknown. For this reason, we recently set up a research programme. This programme will include studies on (1) interprofessional learning in dental education (e.g., on role perception and role taking of supervisors and students), (2) practice-based learning in a longitudinal setting and (3) introduction and use of EPAs and entrustment and its impact on dental education.

6 | CONCLUSION

A Student Run Dental Clinic that includes EPAs for the dental field has been developed, based on five educational principles. Evaluation shows that working with EPAs is generally well received and that EPAs are applicable in dental education. Further research on the effects of the SRDC and of the use of EPAs on supervisors and students is needed to evaluate their value for learning and assessment.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analysed in this study.

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