

Self-Assessed Competence of Dental Students Regarding Preparation of Final Examination

Trupti Bhanudas Desai¹, Dr. Ajay Gaikwad²

¹Intern, Department of Prosthodontics, School of Dental Sciences, Krishna Vishwa Vidyapeeth (Deemed to be University), Karad (415110), Maharashtra, India.

²Professor, Department of Prosthodontics, School of Dental Sciences, Krishna Vishwa Vidyapeeth (Deemed to be University), Karad(415110), Maharashtra, India.

ABSTRACT

Background:

One of the most difficult parts of dental education is getting ready for the final professional exam. Students are expected to feel competent and confident in a variety of clinical and professional abilities during this time. Gaining insight into how students view their own preparedness might help identify the advantages and disadvantages of undergraduate education.

Aim:

The purpose of this study was to measure final-year dental students' self-assessed competency in terms of their readiness for the final professional exam.

Methods:

A cross-sectional questionnaire-based study was conducted among 208 final-year Bachelor of Dental Surgery (BDS) students from dental institutions in Maharashtra, India, during the academic year 2024–2025. A structured self-administered questionnaire was used to assess students' perceived confidence in clinical procedures, communication skills, professionalism, and patient management. Responses were recorded using graded options reflecting different levels of independence. Descriptive statistics were used to summarize the findings.

Results:

Students generally reported good confidence in basic clinical procedures such as taking medical histories, performing oral examinations, administering local anesthesia, and carrying out routine restorative work. However, many students indicated that they still required assistance with more complex clinical tasks, particularly in removable prosthodontics. While communication skills and professional awareness were viewed positively by most participants, lower confidence was observed in managing anxious patients and children.

Conclusion:

The findings suggest that final-year dental students feel reasonably prepared in fundamental areas but less confident in advanced clinical procedures and challenging patient care situations. Strengthening hands-on clinical training, providing focused guidance during the final year, and addressing areas where students feel less prepared may help improve examination readiness and support a smoother transition into independent dental practice.

INTRODUCTION

The transition from dental school to independent clinical practice is a defining stage in the professional journey of dental graduates. Dental students are expected to consolidate a wide range of clinical, cognitive, and behavioral skills that enable them to function safely and effectively in real-world healthcare environments. However, studies from different parts of the world suggest that this transition is often marked by self-doubt and varying degrees of preparedness, especially when students are assessed on their own perceptions of competence.

A multi-institutional study by Javed et al. (2024) in Saudi Arabia assessed self-reported preparedness among final-year dental students and interns using the validated Dental Undergraduates Preparedness Assessment Scale (DU-PAS). While the overall competence level was encouraging, notable gaps emerged in areas such as multi-rooted endodontics, removable prosthodontics, orthodontic evaluation, and evidence-based practice, reflecting challenges that remain even in structured academic settings¹. Similar concerns have been echoed in other regions. Studies from Malaysia, the UK, and Australia have reported that although dental students often feel confident in basic clinical procedures—such as radiographic interpretation or caries removal—they lack confidence in complex tasks like comprehensive treatment planning, surgical extractions, and working with pediatric or medically compromised patients^{2,3,4,5}. In particular, endodontic procedures on multi-rooted teeth and fabrication of removable prostheses are consistently ranked among the most difficult skills to master before graduation^{6,7}. The issue extends beyond technical competence. Communication, teamwork, professionalism, time management, and patient-centered care are integral components of dental education. Research has shown that dental graduates who report low confidence in these soft skills often struggle during the initial phase of clinical practice, leading to anxiety, burnout, or underperformance^{8,9}. The importance of assessing preparedness through self-evaluation tools like DU-PAS lies in their ability to highlight perceived gaps early on. This allows educators to provide targeted remediation, design simulation-based training modules, and offer opportunities for interdisciplinary exposure before graduation^{10,11}.

Furthermore, international bodies such as the General Dental Council (GDC) in the UK and the Association for Dental Education in Europe (ADEE) stress the need for continuous curriculum reforms to bridge the “graduate–practice” gap^{12,13}. In India, although dental curriculam are aligned with international educational frameworks, limited research has focused on final-year students’ self-perceived readiness—especially regarding their preparation for final professional examinations. This period is not only academically intense but also emotionally demanding, and students’ self-assessment at this stage can offer valuable insights into the effectiveness of clinical training, mentoring systems, and support services.

The present study aims to assess the **self-assessed competence of dental students in India regarding their preparation for final examinations**, using a framework similar to that of Javed et al. (2024). By comparing findings across cultural and institutional contexts, the study seeks to identify key strengths and areas for improvement in undergraduate dental education in India.

METHODS

Ethical Approval

This study was conducted following approval from the Institutional Ethics Committee of Krishna Vishwa Vidyapeeth, located in Maharashtra. The protocol number is 077/2025-2026. Participation was entirely voluntary, and all students were provided with an informed consent form before taking part. Their responses were collected anonymously, and all data were kept confidential and used solely for research purposes.

Research Question

The central question guiding this study was: How confident and competent dental students are regarding their final exam preparation? This question aimed to explore students' self-perceived clinical and cognitive readiness as they approached graduation.

Study Design

A cross-sectional survey design was adopted to gather data at a single point in time from a defined group of participants. This approach is well suited for identifying patterns in self-assessed competence within a specific academic context.

Settings

The study was carried out in multiple recognized dental institutions in Maharashtra, India. Data collection took place during the academic year 2024-25, focusing on students who were in their final year of the Bachelor of Dental Surgery (BDS) program.

Participants and Sampling Technique

The participants in this study were dental students (n=200) currently enrolled at the institution. A simple random sampling method was used, where students who were available and willing to participate during the study period were included. This method was chosen to ensure maximum response rate within the given timeframe.

Sample Size Calculation

The required sample size was calculated using with a confidence level of 95%, a 5% margin of error, and an assumed response distribution of 50%. Based on an eligible student population of approximately, a minimum sample size of 200 was determined.

Data Collection:

Survey was conducted in digital format (Google forms) to maximize accessibility to the students. Prior to distribution, a brief overview of the aims of the study was provided.

Statistical Data:

The SPSS program (version XX, IBM Corp., Armonk, NY, USA) used to analyse the data after it has been collected using Microsoft Excel. The demographics of the participants and general response patterns are described using summary statistics like frequency, percentage, mean, and standard deviation. When comparing mean scores between two groups, the independent t-test were used, and when comparing more than two groups, one-way ANOVA with Tukey's post-hoc analysis was used. The Chi-square test used to investigate correlations between categorical variables. The reliability of the questionnaire was evaluated using Cronbach's alpha, with values of 0.7 or higher indicating satisfactory internal consistency, and Pearson's correlation was used to examine relationships between continuous variables. For all statistical studies, a significance level of $p < 0.05$ was set.

RESULT

A total of **208 final-year BDS students** participated in the study. Their responses provide an overview of how confident students felt about their clinical skills and professional abilities while preparing for the final examination.

Table 1 Participant scores with options: No, With Assistance, Independently

Item	Question	No (%)	With Assistance (%)	Independently (%)	
1	Can I obtain a complete medical history from my patients	3.3	55.8	40.9	
2	Am I capable of performing a comprehensive clinical oral examination	5.3	53.4	41.3	
3	Am I proficient in taking intraoral periapical radiographs	6.2	52.9	40.9	
4	Am I skilled in effectively administering local anesthesia and nerve blocks	6.7	40.9	52.4	
5	Can I restore teeth with tooth-colored fillings appropriately	8.2	39.9	51.9	
6	Do I have the ability to provide mechanically sound and functional full dentures	5.3	59.6	35.1	

As shown in Table 1, most students reported being able to perform basic clinical tasks, although many required some level of assistance. More than half of the participants (**55.8%**) stated that they could obtain a complete medical history with assistance, while **40.9%** felt confident doing this independently. A similar pattern was observed for comprehensive oral examinations, with **53.4%** of students reporting the need for assistance and **41.3%** indicating independent competence.

When asked about radiographic procedures, **52.9%** of students reported taking intraoral periapical radiographs with assistance, whereas **40.9%** felt capable of performing the procedure independently. In contrast, greater confidence was noted in administering local anesthesia and nerve blocks, as **52.4%** of respondents reported being able to carry out these procedures independently.

Restorative procedures also showed encouraging levels of confidence. Over half of the students (**51.9%**) reported

that they could independently restore teeth using tooth-colored fillings, while **39.9%** required assistance. However, confidence was noticeably lower in complete denture fabrication, with **59.6%** of students indicating that they could provide mechanically sound and functional full dentures only with assistance, and just **35.1%** reporting independent competence.

Students' self-assessment of communication and professional skills is summarized in Table 2. Most respondents indicated that they were generally able to manage patients' expectations, with **67.3%** reporting that they mostly did so and **28.4%** stating they always managed this effectively. Similarly, **64.9%** of students reported mostly being able to motivate patients toward good oral self-care practices, while **31.3%** felt they were always successful.

Table 2. Participant scores with options No, Mostly, Always

Item	Question	No (%)	Mostly (%)	Always (%)	
7	Do I effectively manage patients' treatment expectations	4.3	67.3	28.4	
8	Am I capable to motivate patients to practice self-care for their dental health	3.8	64.9	31.3	
9	Do I recognize my personal limitations in clinical practice	5.3	64.9	29.8	
10	Am I effective in communicating with my patients	6.3	54.3	39.4	
11	Do I provide opportunities for patients to express their expectations regarding dental treatment	4.8	54.8	40.4	
12	Do I effectively manage anxious patients using appropriate behavioral techniques	7.2	62.5	30.3	
13	Do I maintain accurate clinical records	3.3	61.1	35.6	
14	Am I capable of managing children's behavior to facilitate appropriate dental treatment	7.7	66.3	26	
15	Am I aware of my legal responsibilities as a dental professional	2.9	62.5	34.6	

Awareness of personal limitations in clinical practice was reported as mostly present by **64.9%** of participants. Communication skills were rated relatively high, with **39.4%** of students stating that they always communicated effectively with patients and **54.3%** indicating that they did so most of the time. Additionally, **40.4%** of respondents reported that they always allowed patients to express their expectations regarding dental treatment.

Managing anxious patients remained an area where many students felt partially confident; **62.5%** reported mostly using appropriate behavioral techniques, while **30.3%** felt consistently effective. Accurate maintenance of clinical records was reported as mostly by **61.1%** of students and always by **35.6%**.

Confidence in managing pediatric patients was moderate, with **66.3%** of respondents stating that they mostly managed children's behavior effectively during dental treatment, and **26%** reporting consistent confidence. Awareness of legal responsibilities as a dental professional was reported as mostly by **62.5%** of students, while **34.6%** indicated that they were always aware of these responsibilities.

The main limitation of this study is that the findings are based on students' self-reported perceptions of their own competence while preparing for the final professional examination. Since self-assessment may not always accurately reflect actual clinical ability, there is a possibility that some students may have overestimated their level of preparedness. However, it is important to note that many participants also openly reported areas in which they felt less confident, suggesting a realistic and honest appraisal of their abilities.

DISCUSSION

This study evaluated how final-year dental students perceive their readiness for the final professional examination. The findings indicate that most students feel confident in basic clinical procedures and patient communication, reflecting adequate foundational training during undergraduate education. Similar trends have been reported in studies from Saudi Arabia, the United Kingdom, and Malaysia, where students demonstrated good confidence in routine clinical skills³.

In contrast, lower confidence was observed in more complex clinical procedures, particularly in removable prosthodontics. Many students reported needing assistance in providing complete dentures, a finding that aligns with previous research identifying prosthodontic procedures as challenging for undergraduate dental students^{6,7}. Limited clinical exposure and the technical complexity of these procedures may explain this reduced confidence.

While communication skills were generally rated positively, fewer students reported consistent confidence in managing anxious patients and children. This observation is consistent with earlier studies highlighting behavioral management and pediatric care as areas where undergraduate students often feel less prepared^{4,5,8}. Such skills typically develop with increased clinical experience and structured guidance.

Overall, these findings highlight the importance of strengthening training in advanced clinical procedures and patient management during the final year of dental education. Addressing these gaps may help improve students' confidence, examination performance, and readiness for independent clinical practice.

CONCLUSION

This study explored how final-year dental students perceive their own readiness for the final professional examination. Overall, most students felt confident with basic clinical procedures and patient communication, which reflects a solid foundation built during undergraduate training. At the same time, many students reported needing assistance with more complex clinical procedures and challenging patient management situations, indicating areas where additional support may be beneficial.

Lower confidence was particularly evident in advanced clinical skills such as removable prosthodontics, as well as in managing anxious and pediatric patients. These findings suggest that while students are progressing well academically, the final year remains a demanding phase where increased clinical exposure, closer supervision, and structured guidance could further strengthen students' confidence and competence.

By capturing students' self-assessments at a crucial stage of their academic journey, this study highlights the importance of listening to students' perspectives when evaluating dental education programs. Addressing the areas where students feel less prepared may help improve both examination readiness and the transition from student to independent dental practitioner.

Financial help and sponsorship: Nil

Conflicts of interest: Nil

ACKNOWLEDGEMENT

With deep gratitude, I would want to thank my guide, Dr. Ajay Gaikwad, whose advice, support, and insightful criticism helped to develop this project at every turn. Your assistance helped make a challenging subject seem doable and relevant. I would also like to sincerely thank all of the students that took part in this research.

Author contribution:

The study's general idea and design were overseen by Trupti Bhanudas Desai and conducted the literature analysis, developed the questionnaire, and gathered information, oversaw the composition of the manuscript, including the discussion and conclusion sections, and carried out the data analysis and interpretation.

Dr. Ajay Gaikwad, who offered scholarly direction during the investigation and supported ethical approvals, helped to improve the study design, and offered insightful criticism on the analysis and paper's final draft.

Disclosure: The author states that there are no conflicts of interest pertaining to the publication, authorship, or content of this study.

REFERENCES

- [1]. Javed MQ, Abulhamael AM, Ahmad Z, et al. Self-reported preparedness of final year undergraduate dental students and interns in Saudi Arabia: a multi-institutional study. *BMC Med Educ.* 2024;24:282. <https://doi.org/10.1186/s12909-024-05246-z>
- [2]. Mat Yudin Z, et al. Self-perceived preparedness of undergraduate dental students in Malaysia: a national study. *Eur J Dent Educ.* 2020;24(1):35–43. <https://doi.org/10.1111/eje.12480>
- [3]. Ali K, Slade A, Kay E, et al. Preparedness of undergraduate dental students in the UK: a national study. *Br Dent J.* 2017;222(6):472–7. <https://doi.org/10.1038/sj.bdj.2017.272>
- [4]. Mariño R, et al. Preparedness for practice of newly qualified dental practitioners in the Australian context. *BMC Med Educ.* 2022;22(1):63. <https://doi.org/10.1186/s12909-022-03684-1>
- [5]. Ray M, et al. Investigating the preparedness of final year dental students in the UK. *Br Dent J.* 2018;225(4):340–5. <https://doi.org/10.1038/sj.bdj.2018.646>
- [6]. Tavares LG, et al. Undergraduate dentistry students' perception of difficulties regarding endodontic treatment. *Aust Endod J.* 2019;45(1):65–70. <https://doi.org/10.1111/aej.12290>
- [7]. Altorisy A, Ahmad MZ. Assessing confidence levels in endodontic procedures among senior undergraduate dental students. *Cureus.* 2023. <https://doi.org/10.7759/cureus.43649>
- [8]. Sim MY, et al. Dental students' perceptions of learning manual dexterity. *J Dent Educ.* 2023;87(1):72–79. <https://doi.org/10.1002/jdd.13101>
- [9]. Ali K, et al. Preparedness of dental graduates for foundation training: a qualitative study. *Br Dent J.* 2014;217(3):145–9. <https://doi.org/10.1038/sj.bdj.2014.648>
- [10]. Ba-Hattab R, et al. Impact of virtual reality simulation in endodontics on the learning experiences of dental students. *Appl Sci.* 2023;13(2):981. <https://doi.org/10.3390/app13020981>
- [11]. Raghavan S, et al. Orthodontic curricula in undergraduate dental education: a scoping review. *Int J Environ Res Public Health.* 2023;20(6):4914. <https://doi.org/10.3390/ijerph20064914>
- [12]. General Dental Council (UK). *Preparing for Practice: Dental Team Learning Outcomes for Registration.* London: GDC; 2015.
- [13]. Cowpe J, et al. Profile and competences for the graduating European dentist—update 2009. *Eur J Dent Educ.* 2010;14(4):193–202. <https://doi.org/10.1111/j.1600-0579.2009.00609.x>