



This is a repository copy of *Evaluation of an assessment system for professionalism amongst dental students*.

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/103450/>

Version: Supplemental Material

Article:

Zijlstra-Shaw, S., Roberts, T.E. and Robinson, P.G. (2016) Evaluation of an assessment system for professionalism amongst dental students. *European Journal of Dental Education*. ISSN 1396-5883

<https://doi.org/10.1111/eje.12226>

This is the peer reviewed version of the following article: Zijlstra-Shaw, S., Roberts, T. and G Robinson, P. (2016), Evaluation of an assessment system for professionalism amongst dental students. *Eur J Dent Educ.*, which has been published in final form at <http://onlinelibrary.wiley.com/doi/10.1111/eje.12226/>. This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Self-Archiving.

Reuse

Unless indicated otherwise, fulltext items are protected by copyright with all rights reserved. The copyright exception in section 29 of the Copyright, Designs and Patents Act 1988 allows the making of a single copy solely for the purpose of non-commercial research or private study within the limits of fair dealing. The publisher or other rights-holder may allow further reproduction and re-use of this version - refer to the White Rose Research Online record for this item. Where records identify the publisher as the copyright holder, users can verify any specific terms of use on the publisher's website.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

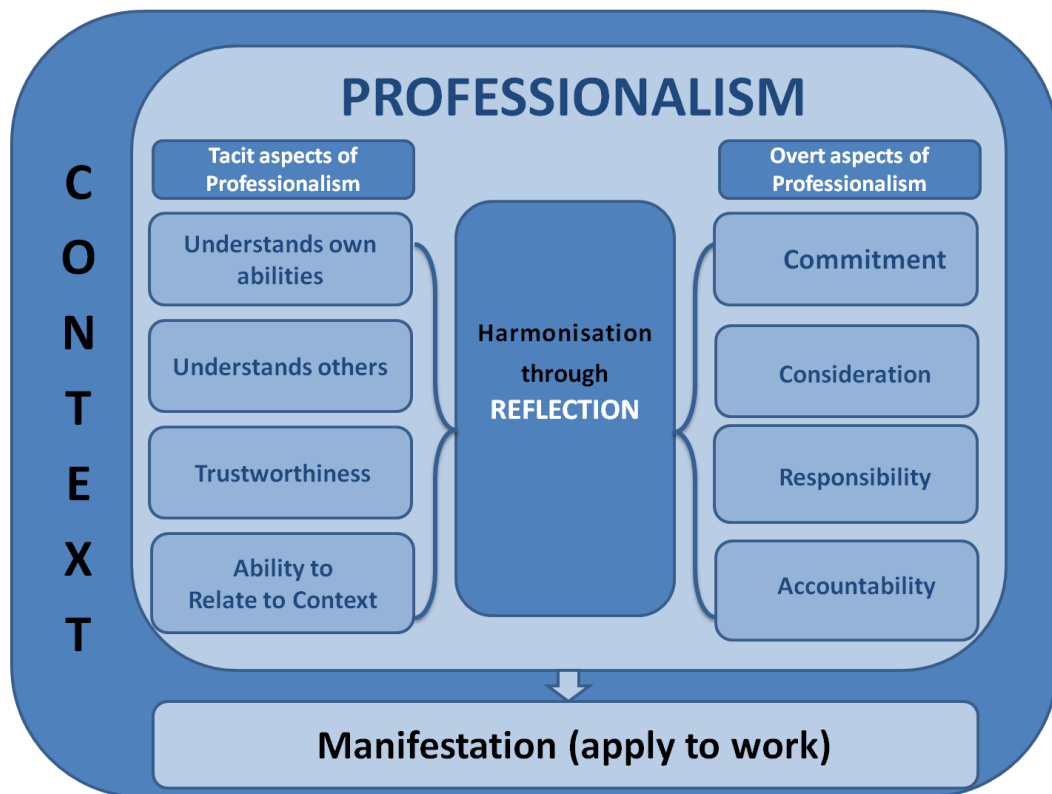


Figure 1 Conceptual framework of Professionalism in dentistry adapted for use in assessment of senior dental students

		Method of reporting using the 6 point Likert scale
1	Student self-assessment	8 item form
2	Separately completed Staff assessment using the combined views of all staff members	Equivalent 8 item form
3	Appraisal discussion and completion of agreed form	16 item form, 8 equivalent items plus 8 items related to the discussion

Figure 2 Stages of ADSPS

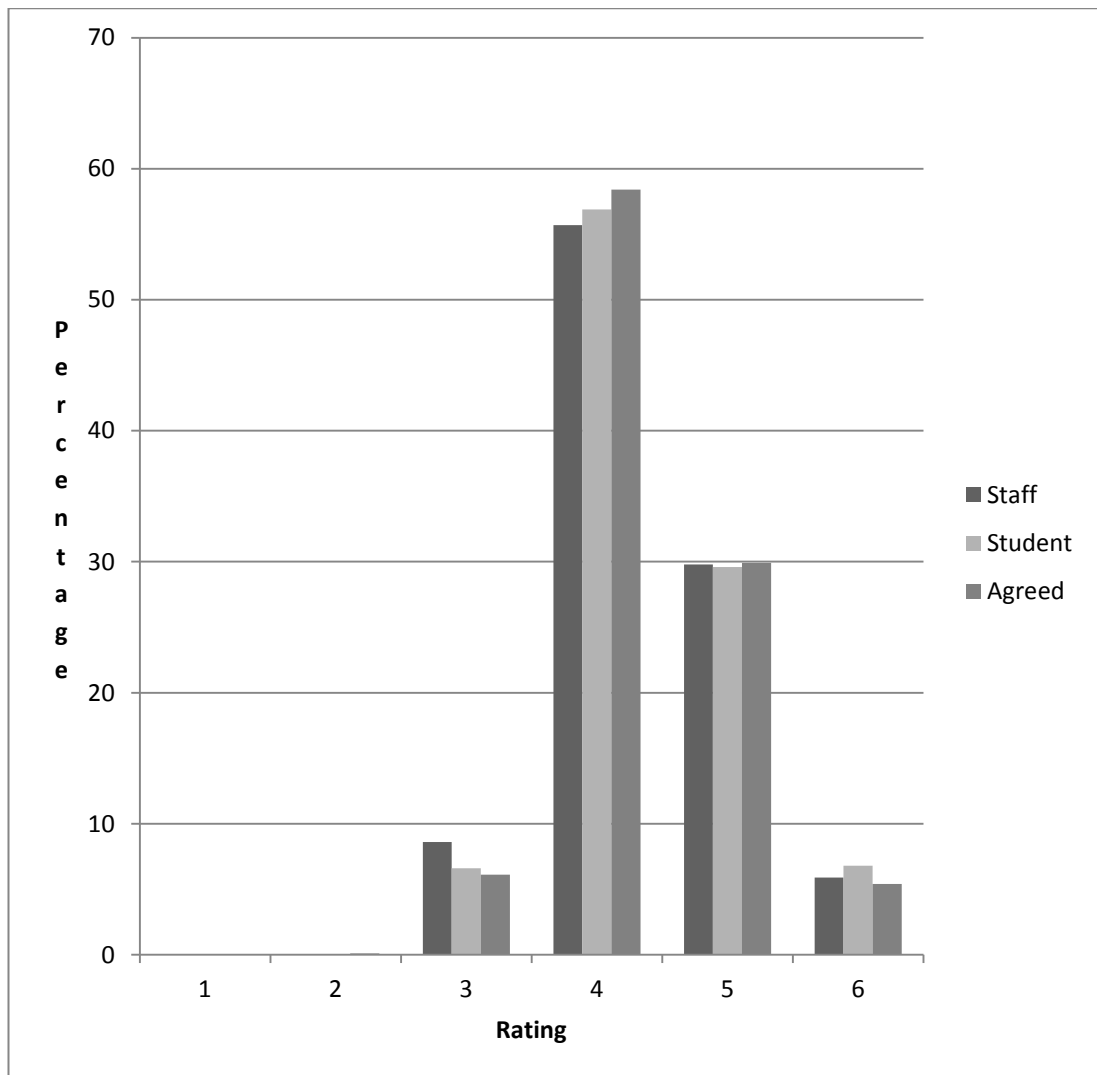


Figure 3 Distribution of ADSPS staff, students and agreed assessments for 81 students involved in ADSPS

Factor	Staff vs Student (r_s)	p	Student vs agreed (r_s)	p	Staff vs agreed (r_s)
Commitment	0.31	<0.01	0.33	<0.01	0.95
Consideration	0.18	<0.13	0.17	<0.01	0.93
Responsibility	0.33	<0.01	0.48	<0.01	0.79
Trustworthiness	0.35	<0.01	0.39	<0.01	0.91
Understands own abilities	0.31	<0.05	0.46	<0.01	0.79
Understands needs of others	0.35	<0.01	0.51	<0.01	0.80
Instils trust	0.31	<0.01	0.48	<0.01	0.90
Relates to context	0.15	<0.18	0.33	<0.01	0.79

Table 1 Correlation between scores from staff and students for 81 students involved in ADSPS

Factor	Corrected Item-Total Correlation	Alpha if Item Deleted	Cronbach alpha
Commitment	0.66	0.95	0.95
Consideration	0.72	0.95	0.95
Responsibility	0.77	0.95	0.95
Trustworthiness	0.74	0.95	0.95
Understands abilities	0.65	0.95	0.95
Understands others	0.68	0.95	0.95
Instils trust	0.68	0.95	0.95
Relates to context	0.67	0.95	0.95
Accounts transparently	0.69	0.95	0.95
Respects rules etc	0.66	0.95	0.95
Reflects on own actions	0.67	0.95	0.95
Reflection includes choices	0.73	0.95	0.95
Reflection shows balance	0.78	0.95	0.95
Manifest as clinical skills	0.70	0.95	0.95
Manifest as communication	0.80	0.95	0.95
Manifest as organisation	0.79	0.95	0.95

Table 2 Internal reliability of assessment domains within ADSPS for 81 students

Factor	ICC
Commitment	0.99
Consideration	0.97
Responsibility	0.96
Trustworthiness	0.99
Understands abilities	0.97
Understands others	0.98
Instils trust	0.99
Relates to context	0.99
Accounts transparently	0.98
Respects rules etc	1.00
Reflects on own actions	0.98
Reflection includes choices	0.96
Reflection shows balance	0.88
Manifest as clinical skills	0.90
Manifest as communication	0.99(8)
Manifest as organisation	0.96
Global score	0.96

Table 3 Reliability of assessment domains within ADSPS for 66 students

Factor	Correlation (r_s)	p
Reflects on own actions/Reflection includes choices	0.72	<0.01
Reflects on own actions/ Reflection shows balance	0.68	<0.01
Reflection includes choices/Reflection shows balance	0.80	<0.01
Understands abilities/Commitment	0.54	<0.01
Understands abilities /Reflects on own actions	0.47	<0.01
Understands abilities /Reflection includes choices	0.57	<0.01
Understands abilities /Reflection shows balance	0.50	<0.01
Consideration/Understands others	0.76	$p < 0.01$
Trustworthiness/ Responsibility	0.62	$p < 0.01$
Trustworthiness/ Instils trust	0.64	$p < 0.01$
Relates to context/ Accounts transparently	0.34	$p < 0.01$

Table 4 Construct validity of ADSPS: correlations between items within the model hypothesized to be related

Factor	Male		Female		P (MW test)
	Mean (sd)	Median (Range)	Mean (sd)	Median (Range)	
Commitment	4.43 (0.75)	4 (3-6)	4.22 (0.69)	4 (3-6)	0.23
Consideration	4.45 (0.75)	4 (3-6)	4.61 (0.63)	5 (4-6)	0.43
Responsibility	3.8 (0.71)	4 (3-6)	4.51 (0.71)	4 (3-6)	0.37
Trustworthiness	4.45 (0.71)	4 (3-6)	4.51 (0.78)	4 (3-6)	0.67
Understands abilities	4.43 (0.61)	4 (3-6)	4.12 (0.71)	4 (3-6)	0.24
Understands others	4.44 (0.71)	4 (3-6)	4.44 (0.74)	4 (3-6)	0.84
Instils trust	4.33 (0.76)	4 (3-6)	4.39 (0.77)	4 (3-6)	0.74
Relates to context	4.38 (0.71)	4 (3-6)	4.39 (0.59)	4 (3-6)	0.61
Accounts transparently	4.44 (0.62)	4 (3-6)	4.44 (0.59)	4 (3-6)	0.70
Respects rules etc	4.33 (0.53)	4 (4-6)	4.44 (0.71)	4 (3-6)	0.52
Reflects on own actions	4.35 (0.61)	4 (3-6)	4.37 (0.54)	4 (4-6)	0.89
Reflection includes choices	4.20 (0.61)	4 (3-6)	4.29 (0.56)	4 (3-6)	0.33
Reflection shows balance	4.10 (0.59)	4 (3-6)	4.15 (0.62)	4 (3-6)	0.69
Manifest as clinical skills	4.25 (0.70)	4 (3-6)	4.34 (0.69)	4 (3-6)	0.33
Manifest as communication	4.38 (0.59)	4 (3-6)	4.37 (0.58)	4 (3-6)	0.94
Manifest as organisation	4.33 (0.66)	4 (3-6)	4.34 (0.66)	4 (3-6)	0.76

Table 5 Factor scores by gender amongst 81 dental students

Factor	Correlation (r_s)	p
Commitment	0.19	0.10
Consideration	0.11	0.33
Responsibility	0.16	0.16
Trustworthiness	0.25	0.03
Understands abilities	0.04	0.75
Understands others	0.02	0.90
Instils trust	0.12	0.30
Relates to context	0.27	0.02
Accounts transparently	0.17	0.14
Respects rules etc	0.17	0.13
Reflects on own actions	0.29	0.01
Reflection includes choices	0.27	0.02
Reflection shows balance	0.25	0.02
Manifest as clinical skills	0.22	0.05
Manifest as communication	0.32	< .01
Manifest as organisation	0.32	< .01

Table 6 Correlation between domain scores and age amongst 81 dental students

Correlation for each factor with global score		
Factors	Correlation coefficient (r_s)	p
Commitment	0.56	<0.05
Consideration	0.60	<0.05
Responsibility	0.53	<0.05
Trustworthiness	0.35	<0.05
Understands abilities	0.47	<0.05
Understands others	0.49	<0.05
Instils trust	0.41	<0.05
Relates to context	0.45	<0.05
Accounts transparently	0.41	<0.05
Respects rules etc	0.32	<0.05
Reflects on own actions	0.51	<0.05
Reflection includes choices	0.47	<0.05
Reflection shows balance	0.46	<0.05
Manifest as clinical skills	0.44	<0.05
Manifest as communication	0.55	<0.05
Manifest as organisation	0.42	<0.05

Table 7. Criterion validity for each domain within ADSPS and the global scores amongst 81 dental students

Appendix 1 Forms used in the assessment

Form 1 Student self assessment



School
Of
Clinical
Dentistry.

DEVELOPMENT OF PROFESSIONALISM – STUDENT SELF ASSESSMENT

PLEASE COMPLETE THE DETAILS IN BLOCK CAPITALS USING BLACK INK

Student Surname		Student First Name		Year of Study	
Name of member of staff carrying out assessment					
Outreach Placement Name					
	Grade attained (see descriptors)	Comments and evidence	Not applicable / Unable to assess		
Did you demonstrate adequate and appropriate:					
commitment, including the appropriate degree of autonomy, confidence and motivation?					
consideration of others, including a caring attitude and respect for those around them?					
responsibility, including reliability, fairness?					
trustworthiness, including honesty and integrity?					
Did you demonstrate an understanding of:					
your own abilities?					
the needs of others around you including patients and the dental team?					
the need to instil trust?					
the ability to relate to context including the need for flexibility?					
Staff signature				Date Completed	
Student signature				/ /	

Form 2 Staff Assessment



School Of Clinical Dentistry.

DEVELOPMENT OF PROFESSIONALISM – STAFF ASSESSMENT

PLEASE COMPLETE THE DETAILS IN BLOCK CAPITALS USING BLACK INK

Staff Surname		Staff First Name	
Name of student who you are assessing			
Outreach Placement Name			
	Grade attained (see descriptors)	Comments and evidence	Not applicable / Unable to assess
Did the student demonstrate adequate and appropriate:			
commitment, including the appropriate degree of autonomy, confidence and motivation?			
consideration of others, including a caring attitude and respect for those around them?			
responsibility, including reliability, fairness?			
trustworthiness, including honesty and integrity?			
Did the student demonstrate an understanding of:			
their own abilities?			
the needs of others around them including patients and the dental team?			
the need to instil trust?			
the ability to relate to context including the need for flexibility?			
Staff signature			Date Completed
			/ /

Form 3 Agreed Form used in appraisal



School
Of
Clinical
Dentistry.

DEVELOPMENT OF PROFESSIONALISM – AGREED STUDENT / STAFF ASSESSMENT

PLEASE COMPLETE THE DETAILS IN BLOCK CAPITALS USING BLACK INK

Student Surname		Student First Name		Year of Study	
Name of member of staff carrying out assessment					
Outreach Placement Name					
	Grade attained (see descriptors)	Comments and evidence	Not applicable / Unable to assess		
Did the student demonstrate adequate and appropriate:					
commitment, including the appropriate degree of autonomy, confidence and motivation?					
consideration of others, including a caring attitude and respect for those around them?					
responsibility, including reliability, fairness?					
trustworthiness, including honesty and integrity?					
Did the student demonstrate an understanding of:					
their own abilities?					
the needs of others around them including patients and the dental team?					
the need to instil trust?					
the ability to relate to context including the need for flexibility?					
Could the student account for / explain their actions / decisions?					
With openness and transparency?					
With due regard for rules, regulations and guidelines?					
Did this explanation demonstrate reflection and a reasonable awareness of, and balance between the choices available?					
Able to reflect on own actions / choices					
Reflection demonstrated awareness of choices					
Reflection demonstrated balance between choices					
Did the student manifest their reflection appropriately?					
With respect to clinical skills					
With respect to communication					
With respect to management and organisation skills					
Overall the student demonstrated Professionalism (please tick relevant box)					
Overall the student did not demonstrate Professionalism (please tick relevant box)					
Student signature					Date Completed
Staff signature					/ /