

## Research article

# Grading practice as a strategy to improve proficiencies in undergraduate nurse education: Modelling key areas of competence

Sarah H. Annesley<sup>\*</sup>, Alan Platt, James A. Wade, Marco Tomietto

Department of Nursing, Midwifery and Health, Faculty of Health and Life Sciences, Northumbria University, Newcastle Upon Tyne NE7 7XA, United Kingdom



## ARTICLE INFO

## Keywords:

Grading practice  
Clinical competence  
Students  
Nursing  
Cross-sectional study

## ABSTRACT

**Background:** In undergraduate nursing grading practice is generally avoided as it is considered educationally flawed.

**Objectives:** To test an innovative online grading practice tool (GPT) in undergraduate nurse education. To model the determinants of the final practice grade in four areas of clinical competence and in one cohort analysis the relationship between final practice grade and each area of clinical competence and an OSCE grade.

**Design:** A cross-sectional study.

**Participants:** A convenience sample of 782 nursing students from one Higher Education Institution in the North-East of England were included. The sample involved two sequential cohorts of final-year students with 391 students in each cohort.

**Methods:** A specifically designed online grading practice tool (GPT) composed of thirty-six objectives equally divided across four areas of clinical competence. The GPT was applied to two consecutive student cohorts on completion of their final practice learning placement.

**Results:** There was a statistically significant difference in the mean final practice grade between the two cohorts. In the overall sample, regression modelling showed that all four areas of student assessment contributed equally to the final grade. Analysis by cohort showed that in Cohort 1 clinical thinking and professionalism had the most influence on the final grade with person-centered care and patient safety most strongly impacting on the final grades of Cohort 2. In Cohort 2 there is no statistically significant correlation between final practice grade, each area of clinical competence and an OSCE grade.

**Conclusions:** Practice learning is fundamental to how students develop professional awareness and learn to nurse. Findings from a novel grading practice tool applied in undergraduate nursing reveal how effectively the tool works. Nurse educators must be responsive to the realities of learning in practice and explore new ways of assessing clinical competence.

## 1. Introduction

In pre-registration nursing, grading practice is generally avoided on the grounds that its application is too variable and inconsistent, susceptible to high levels of subjectivity and observation bias and, consequently, seen as educationally flawed (Edwards, 2012; Helminen et al., 2016). Here, it is argued that a carefully structured and innovative online Grading Practice Tool (GPT) can enhance student learning and provide meaningful feedback which promotes clinical proficiency.

Nurse education programmes in the UK are required to ensure that practice learning forms at least half of the educational experience of

students (Nursing and Midwifery Council (NMC), 2018). The assessment of a student's performance in practice is an ongoing process throughout their programme of study. Clinical assessment is based on feedback from practice assessors, practice supervisors and academic assessors (NMC, 2018a). These assessors evaluate a student's ability to meet the standards as set out by the NMC and whether they are deemed to attain what is defined as fitness to practice.

Clinical assessment includes both formative and summative assessment approaches. At key points of a student's progression summative practice assessment is required; the NMC (2018) term these progression points – part 1, part 2 and part 3. Traditionally, this summative

<sup>\*</sup> Corresponding author.

E-mail addresses: [sarah.annesley@northumbria.ac.uk](mailto:sarah.annesley@northumbria.ac.uk) (S.H. Annesley), [alan.platt@northumbria.ac.uk](mailto:alan.platt@northumbria.ac.uk) (A. Platt), [james.wade@northumbria.ac.uk](mailto:james.wade@northumbria.ac.uk) (J.A. Wade), [marco.tomietto@northumbria.ac.uk](mailto:marco.tomietto@northumbria.ac.uk) (M. Tomietto).

<https://doi.org/10.1016/j.nedt.2023.105890>

Received 20 February 2023; Received in revised form 17 May 2023; Accepted 20 June 2023

Available online 23 June 2023

0260-6917/© 2023 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

assessment is made by assigning a student a simple pass or fail, the approach used in this university until September 2020.

Reapproval of Pre-registration programmes in October 2019 provided the opportunity to explore a more nuanced perspective on clinical assessment. Specifically, an online criteria-based tool was developed and adopted to grade practice at the final assessment - part 3 - before students graduate and are recommended for entry to the NMC register. The online GPT is designed to record the student's level of clinical proficiency in their final placement and at the point of transition from student to newly qualified registered nurse (NQRN).

The GPT is composed of thirty-six clinically focused objectives mapped to the Code (NMC, 2018b) and designed to measure programme outcomes. The tool is completed in partnership with the student and their nominated practice and academic assessor.

## 2. Background

Grading practice has an established history in midwifery education, until the recent revisions to midwifery standards in 2020 (Fisher et al., 2019; Way and Chenery-Morris, 2019). Several studies reveal an extensive debate about whether there are meaningful ways of assessing students' performance in clinical practice beyond the simple assignment of pass or fail (Donaldson and Gray, 2012; Wu et al., 2017).

A systematic review by Donaldson and Gray (2012) considered the advantages and disadvantages of grading practice across fourteen professional groups. Validity and reliability of the tools and grade inflation are the most problematic aspects specific to grading practice (Donaldson and Gray, 2012). Grading practice is further criticised for promoting competition between students, causing unnecessary stress and anxiety and for unfairness towards less able students (Donaldson and Gray, 2012). But nursing literature also shows that students value gaining credit for clinical performance when they might not do as well in traditional academic assessments (Edwards, 2012; Helminen et al., 2016). Grading practice allows students to gain value for practice learning as they do for theory, giving practice and theory learning equal value.

Observation bias is also cited as a risk, as is the undue influence of the assessor-student relationship on a student's final grade (Wu et al., 2017). Research by Chenery-Morris (2014) reports that where friendships developed between an assessor and a student then this could have a positive impact on a student's practice grade. Equally, if there was tension in the assessor-student relationship then this could negatively impact on the grade achieved. But observer bias is equally reported when practice is judged as pass/fail amid concern that practice assessors will avoid difficult decisions around poor practice performance and find it hard to fail incompetent students (Heaslip and Scammell, 2012). However, the influence of the assessor-student relationship operates both ways, with students potentially putting pressure on assessors to give a positive assessment, particularly if the assessor is inexperienced (Donaldson and Gray, 2012). Introducing grading practice makes the assessment criteria explicit to assessors and to students, which enables practice assessors to be more empirically sensitive to a student's performance. The clarity of expectations helps empower less experienced assessors.

Practice assessors play a significant role in the clinical assessment of an individual student but generating a grading practice tool provides context to this dialogue. Furthermore, applying this approach alongside the NMC (2018a) standards of student supervision and assessment requires a tripartite assessment including a practice assessor, a student, and an academic assessor. This helps overcome perceptions of observer bias and the undue influence of an assessor over a student or a student over an assessor. Furthermore, the tripartite approach promotes an internal process of moderation with assessors and the student working together to assess learning. This shows a commitment to the mentoring relationship which was shown to be important in promoting a positive pedagogical environment (Tomietto et al., 2022).

Grading practice is further criticised for being subjective (Helminen et al., 2016). Arguments about subjectivity, observation bias and inconsistency are not exclusive to grading practice. Students, when they reflect on aspects of their learning and assessment, want transparency, objectivity and fairness in both practice and academic performance (Hegenbarth et al., 2015). However, the assessment of practice performance, whether graded or not, relies on the observation of a student by an assessor to make a judgement of performance; subjectivity is built in.

A grading practice tool provides criteria to inform the individual judgement and these criteria are explicit to the student and assessor; the same criteria are applied to each student. 'Subjectivity' is not removed but judgements are more transparent and reflective. Individual judgements are not exclusive to grading practice: they are part of all existing processes of practice performance assessment (Wu et al., 2017). Rather than seeing individual judgement as indicative of weakness and subjectivity, the tool embraces and negotiates the individual perspective it offers. Grading practice provides a more complete picture of a student's practice performance than academic performance alone (Dunbar, 2018). Explicit criteria, reflexivity and accountability are the keys to overcoming the critique of 'subjectivity' when grading practice.

Grades are considered as indicative of an individual's ability and grade inflation occurs when there is a greater percentage of excellence scores than warranted by the student's actual performance (Elie, 2017). Grade inflation is of particular concern in relation to practice performance because it can result in a student believing that they are more competent than they actually are (Donaldson and Gray, 2012). There are several reasons why grade inflation appears particularly associated with grading practice. According to Donaldson and Gray (2012), grade inflation arises for three reasons: (1) students can exercise undue influence on assessors to give a positive grade, (2) inexperienced assessors find it hard to give negative feedback and (3) the close relationship between student and assessor. Finally, tool design can contribute to grade inflation. This is a consequence of assessment clustering around certain grades or choices and if a grading practice tool uses equally weighted objectives, then clustering around the mid-point response can result in similar or higher grades being awarded (Donaldson and Gray, 2012). Donaldson and Gray (2012) suggest that carefully constructed rubrics could go some way to ameliorate grade inflation.

Some literature reports grading practice in more favorable terms. Assessors welcome the opportunity to create a set of principles that can be used to grade practice performance, which brings clarity and fairness, and a more robust process (Way and Chenery-Morris, 2019). The pass/fail approach provides limited feedback to students on their performance and practice assessors would welcome being able to differentiate the level of competency between students, beyond simply pass or fail (Heaslip and Scammell, 2012). Students like the detailed feedback and the distinctiveness of their performance that grading practice offers and they want their performance in practice to be assessed throughout their placement (Heaslip and Scammell, 2012). There is a strong drive to make assessment of practice performance, particularly the final assessment, more of a conversation between student and assessor, one that promotes self-reflection and self-assessment (Taylor et al., 2020). A grading practice tool promises meaningful dialogue and is a template which promotes formative and summative feedback. The grading tool makes the judgement criteria explicit, a transparency welcomed by students and assessors. Clinical practice should be a positive learning experience and an explicitly clear grading practice tool would contribute to this positive experience (Helminen et al., 2016). This is a critical point, marking the transition from student to NQRN.

Students welcome the use of grading practice because it rewards those who are more practically focused (Edwards, 2012). Assigning a grade to practice helps promote excellence and motivate students (Warne et al., 2010). Ultimately, nursing's reluctance to invest in tools to grade practice devalues clinical practice and the learning that takes place in practice environment (Chenery-Morris, 2014). Students and employers value this learning for many reasons, not least because it is

seen to increase student motivation and documents learning that provides evidence to support future employment (Edwards, 2012). This paper presents a novel approach from one institution which addresses these concerns and has developed and applied an approach to grading practice in pre-registration nursing.

### 3. Methods

#### 3.1. Study design

A cross-sectional design was adopted involving two cohorts of students from 2018 and 2019 programme enrollment to examine the determinants of the final practice grade. For one cohort (2019) the correlation between Observed Structured Clinical Examination (OSCE) and the determinants of final practice grade was explored.

#### 3.2. Participants

Two sequential student cohorts were considered for the study: one assigned as September 2018 (cohort 1) who completed their bachelor's degree programme in academic year 2020/21 and the second, September 2019 (cohort 2) who completed in the following academic year (2021/22). Both cohorts represent a convenience sample as all students were enrolled with the same university and all had completed a three-year programme of undergraduate nurse education. The sample included all four fields of nursing (adult, mental health, children's and learning disability nursing). To test a multiple regression model in order to significantly identify the predictors of the final grade a sample size of at least 84 participants was expected, by considering four predictors in the model, a power of 0.80, an effect size of 0.39, and a *p*-value of 0.05.

#### 3.3. Instrument

The GPT was devised following consultation with stakeholders and colleagues specialising in practice assessment and quantitative data methods. The tool was designed to be responsive to the needs of students and practice and academic assessors and generate meaningful data, which was easy to understand whilst avoiding an undue burden on assessors.

A set of thirty-six clinically focused objectives was identified informed by the NMC standards of proficiency and Code (NMC, 2018; NMC, 2018b). These thirty-six objectives are clustered into four areas of practice with nine objectives assessed in each area and summarised in an overall score. The four areas of a student's practice performance are: person-centered care (Area 1), clinical thinking (Area 2), patient safety (Area 3) and professionalism (Area 4). Using these agreed thirty-six objectives in four areas the GPT was created in Microsoft Excel™ and designed to be administered online using Microsoft Forms™ software. Table 1 shows sample items from the grading practice tool.

Before the GPT was implemented students and assessors received teaching and coaching in the process. No pilot or inter-rater reliability testing was conducted before the GPT was introduced.

A student's practice grade is completed at an arranged tripartite discussion including the student, practice assessor and academic assessor which reflects the NMC requirements for student assessment. In collaboration with the academic assessor, the student and their practice assessors complete the GPT (NMC, 2018a). Each objective is discussed, and the rating agreed through tripartite communication. An objective can be rated as excellent, good or satisfactory and then weighted as follows: a student who meets all thirty-six objectives to a satisfactory level attains a grade of 40 %, if there is a mix of satisfactory and good then the student's grade would be between 40 % – 69 % (all satisfactory attains a grade of 69 %). If there is a mix of good and excellent, then the grade would fall between 70 % – 100 % (all excellent attains a grade of 100 %). The process of grading practice is explained further in Fig. 1.

**Table 1**

Sample items from grading practice tool.

Area 1-Person-centered care	Area 2-Clinical thinking	Area 3-Patient safety	Area 4-Professionalism
The student is caring, compassionate and sensitive to the needs of others.	Uses knowledge during assessments to identify the priorities for person-centered and evidence-based nursing interventions	The student can recognise and work within the limitations of their knowledge, skills and professional boundaries	The student demonstrates that they use self-reflection and supervision to gain insight into their own values
The student is non-judgmental, respectful and courteous when interacting with patients/service users/carers.	Demonstrates the knowledge and ability to think critically when applying evidence to practice	Effectively leads the management of care for people	Demonstrates understanding of and applies relevant legal, regulatory and governance requirements.
The student evaluates the quality of people's experiences	Capable of explaining the rationale that influences their judgements and decisions in challenging situations	The student reports concerns to a member of staff when appropriate, and escalates as required	Demonstrates the ability to work in partnership with people, families and carers
Provides and promotes non-discriminatory, person-centered and sensitive care	Uses evidence-based, best practice communication skills and approaches for providing therapeutic interventions	Skills always performed safely	Acts as a role model and an ambassador, upholding the reputation of their profession

Each objective assessed and graded 1–3 1 = Satisfactory 2 = Good 3 = Excellent.

#### 3.4. Setting

One NMC approved education institution (AEI) offering a three-year bachelor programme in the north-east of England, provided the data. The timeframe of this study was impacted by the Covid-19 pandemic. In March 2020, Cohort 1 was in their second year, eighteen months from programme completion; Cohort 2 was in the first year of their programme and had completed just four weeks of practice learning. By April 2020, the NMC introduced recovery and emergency standards (NMC, 2020), which required Cohort 2 to be removed from placement. In lieu of practice learning Cohort 2 completed a planned programme of virtual-simulation and on campus simulation learning and did not return to the practice environment until September 2020, at which point they were due to start the second year of their studies. In contrast, the NMC emergency standards allowed for students in Cohort 1 to undertake placement time without the requirement for supernumerary status to support the health workforce. This allowance was in place for Cohort 1 from April 2020–September 2020. Cohort 1 had an uninterrupted period of practice learning in the final six months of their programme, whilst Cohort 2 had a fragmented learning experience with new models of simulation practice learning tested on them.

#### 3.5. Data analysis

Data were checked and cleaned by removing duplicates, missing or erroneous data. The data were analyzed using SPSS (Version 28.02.1) (IBM Corp., 2021). Categorical data were expressed as frequencies and percentages. Continuous variables were presented as mean and standard deviation (SD). The two cohorts were compared by performing a *t*-test. The impact of each of the four areas of assessment on the final grade was calculated by testing a multiple linear regression model in the overall sample and the two cohorts. The correlation between the final grade and

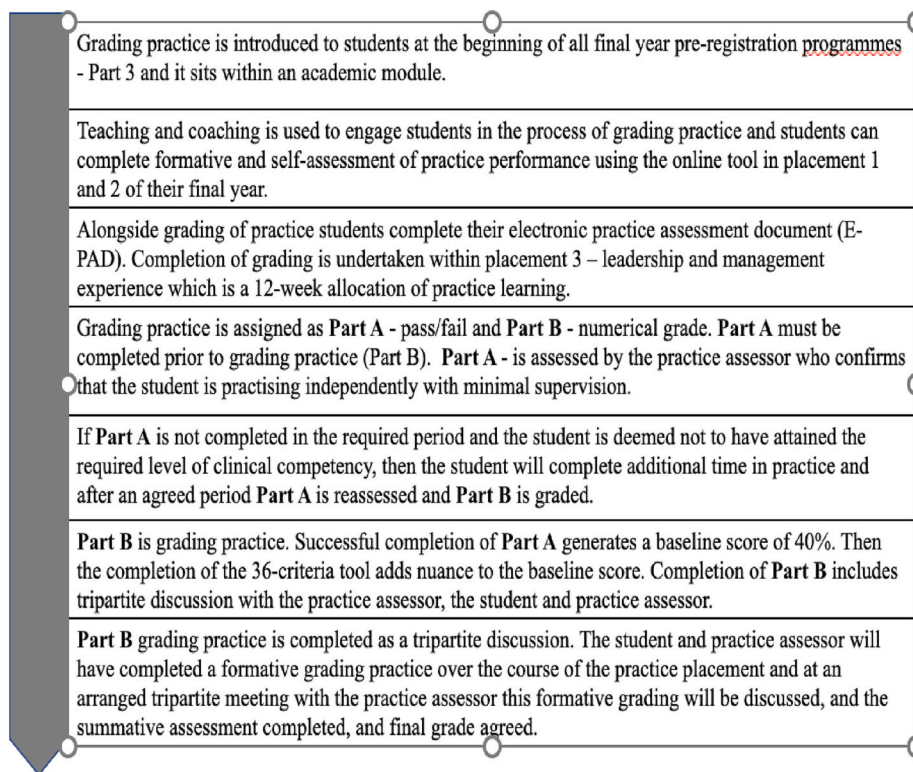


Fig. 1. Process of grading practice.

the OSCE was tested by calculating Pearson's correlation coefficient. Statistical significance was defined as a *p*-value <0.05.

3.6. Ethical considerations

The study was approved through the university's online research ethics process and blinded for peer-review [reference number: 1726]. Informed consent was not required as all data were collected in the process of student assessment and required for programme completion. Ethics approval was sought as the collected data were to be used for purposes beyond those they were originally intended. Data collection and analysis ensured data confidentiality in compliance with the [Data Protection Act \(2018\)](#), which includes the General Data Protection Regulations. Only an anonymous unique identifier was retained for linking the final grade of Cohort 2 with the OSCE outcomes.

4. Results

A convenience sample of 782 nursing students was included in this study: 391 students in each cohort. Each cohort consisted of students in the four fields of nursing (adult, children, mental health, and learning disability nursing) with no statistically significant differences between the two cohorts in terms of mean age and sex (female/male) ([Table 2](#)).

The mean final practice grade for the total sample was 88.38 (SD = 10.43; median = 91; min = 0; max = 100). The mean final practice grade for Cohort 1 was 87.56 (SD =9.36; median = 89; min = 0, maximum = 100). Cohort 2 showed a mean final practice grade of 89.20 (SD = 11.38; median = 92; min = 49; max = 100). There was a statistically significant difference in the mean final practice grade between cohorts ( $t = 2.021, p = 0.028$ ) ([Table 3](#)). Descriptive statistics of the OSCE grades for Cohort 2 revealed a mean grade of 68.25 (SD = 20.4; median = 71; min = 0; max = 97). In analysis of practice and OSCE grades a minimum grade of 0 was recorded by a small number of students. In both assessments a grade of 0 was recorded if issues of patient-safety emerged at the point of assessment and these were deemed of such significance to require a

Table 2  
Sample description.

Variable	Categories	2018		2019		Chi-square/ <i>p</i> -value
		N	%	N	%	
Field of Nursing	Adult	257	65.72	252	64.45	$\chi^2 = 6.185 p = 0.103$
	Child	50	12.78	65	16.62	
	Mental health	64	21.99	65	16.62	
	Learning disability	20	5.11	9	5.62	
Sex	M	22	5.62	21	5.37	$\chi^2 = 0.002 p = 0.871$
	F	369	94.37	370	94.62	
		mean	SD	mean	SD	t-test/ <i>p</i> -value
Age	na	27.30	7.05	26.48	6.47	$t = 1.696/p = 0.090$

Table 3  
Final practice grade for overall sample and by cohort and OSCE grade for Cohort 1.

Cohorts	Mean	SD	t-test/ <i>p</i> -value
2018 ( <i>n</i> = 391)	87.56	9.36	$t = 2.021 - p = 0.028$
2019 ( <i>n</i> = 391)	89.20	11.38	
Cohort	Mean OSCE	SD	t-test/ <i>p</i> -value
2019 ( <i>n</i> = 319)	20.4	20.4	$t = 2.021 - p = 0.028$

further period of assessment and then reassessment.

4.1. Determinants of the final grade

The four areas of assessment (person-centered care, clinical thinking,



patient safety and professionalism) have been tested in a linear regression model by considering the final grade as a dependent variable. The model was calculated for the overall sample and in the two cohorts. In detail, in the total sample, person-centered care was related to the final grade with  $\beta = 0.25$  ( $p < 0.001$ ), clinical thinking  $\beta = 0.27$  ( $p < 0.001$ ), patient-safety  $\beta = 0.26$  ( $p < 0.001$ ) and professionalism  $\beta = 0.26$  ( $p < 0.001$ ). The overall sample linear regression model demonstrated that the four categories contributed 91 % ( $R^2$ ) of the final grade ( $p < 0.001$ ).

In Cohort 1 (2018) person-centered care was related to the final grade with  $\beta = 0.23$  ( $p < 0.001$ ), clinical thinking  $\beta = 0.38$  ( $p < 0.001$ ), patient-safety  $\beta = 0.20$  ( $p < 0.001$ ) and professionalism  $\beta = 0.32$  ( $p < 0.001$ ). This model explained that the four categories contributed 91 % ( $R^2$ ) of the final grade ( $p < 0.001$ ), with clinical thinking and professionalism showing the greatest influence on a student's final grade. Analysis of Cohort 2 (2019) showed that person-centered care was related to the final grade with  $\beta = 0.33$  ( $p < 0.001$ ), clinical thinking with  $\beta = 0.18$  ( $p < 0.001$ ), patient-safety  $\beta = 0.32$  ( $p < 0.001$ ) and professionalism  $\beta = 0.23$  ( $p < 0.001$ ). In Cohort 2, the four categories contributed 94 % ( $R^2$ ) of the final grade ( $p < 0.01$ ), with the areas of person-centered care and patient-safety revealing the greatest influence on a student's final grade (Table 4).

#### 4.2. Correlation between the final grade and OSCE

In Cohort 2 (2019) it was possible to test the correlation between the final grade and each specific area of assessment and OSCE grades: no statistically significant correlation was identified. In detail, person-centered care showed a Pearson's  $r$  of 0.37 ( $p = 0.464$ ), clinical thinking of 0.059 ( $p = 0.246$ ), patient safety of 0.065 ( $p = 0.203$ ) and professionalism of 0.062 ( $p = 0.222$ ). The overall final grade had a correlation of  $-0.041$  ( $p = 0.418$ ). As these two assessments were developed completely independently the fact that there was not a correlation was not a surprise.

### 5. Discussion

The results of the GPT have identified the final practice grade attainment across in the overall sample and by cohort and determined which of the four areas of grading influence a student's final grade in each cohort. The results showed that the four areas contribute equally to the overall grade but there is a difference in the level of influence from one cohort to the next. The areas which determined a student's final grade was not stable from one cohort to the next. In one cohort (Cohort

**Table 4**

Linear regression model: areas of assessment and impact on the final grade. Overall parameters and by cohort.

Cohort	Areas of assessment <sup>†</sup>	Adj- $\beta$	SE	t	p-value	$R^2 - F$ p-value (model)
Overall (n = 782)	Person-centered care	0.25*	0.74	13.57	<0.001	$R^2 = 0.91$ F = 1909.42 P < 0.001
	Clinical thinking	0.27*	0.66	12.82		
	Patient safety	0.26*	0.82	12.37		
	Professionalism	0.26*	0.77	12.18		
Cohort 12018 (n = 391)	Person-centered care	0.23*	0.88	8.72	<0.001	$R^2 = 0.91$ F = 962.05 P < 0.001
	Clinical thinking	0.38*	0.83	12.84		
	Patient safety	0.20*	1.02	6.80		
	Professionalism	0.32*	0.98	7.84		
Cohort 2 2019 (n = 391)	Person-centered care	0.33*	1.05	14.14	<0.001	$R^2 = 0.94$ F = 1411.97 P < 0.001
	Clinical thinking	0.18*	0.86	7.34		
	Patient safety	0.32*	1.07	12.87		
	Professionalism	0.23*	1.02	9.06		

Dependent variable: Final Grade.

\*  $p < 0.001$ .

<sup>†</sup> Independent variables.

2) we have found that there is no relationship between a student's final grade, each area of assessment and their OSCE academic grade.

#### 5.1. Final grade attainment

Nursing students want their practice learning to be valued in the same way as theoretical learning (Helminen et al., 2016). In this study, both cohorts had a similar final practice grade (87.5 % and 89.2 %). This reveals that practice assessors are likely to be clustering around certain choices and, as our grading practice tool uses equally weighted objectives, these findings indicate a higher proportion of students attaining good or excellent scores against the thirty-six objectives.

Nursing students consider grade attainment to be an important sign of success, particularly in their final year when it is seen to impact directly on future employability (Shirazi and Heidari, 2019). Furthermore, recent research has identified that the impact of altered learning during the pandemic induced feelings of concern and anxiety in students because they might not attain the grades they deserved (Comparcini et al., 2022). As explained, both cohorts were directly impacted by altered learning because of the pandemic. Cohort 2 had considerable curtailment to their practice learning due to the pandemic, which could have impacted negatively on their final practice grade, but this was not supported by our findings. Cohort 2 attained a higher final practice grade than Cohort 1, and the latter had no curtailment to practice learning. Indeed, it could be argued that as Cohort 1 completed a period of placement time without the requirement for supernumerary status this would have a positive impact on the cohort's final practice grade. Alternatively, this intense period of practice experience for Cohort 1 as workforce rather than as students may highlight the importance of the quality of the learning environment in supporting student learning rather than just the quantity of time a student spends in the clinical environment.

What we have demonstrated is that students in Cohort 1 and 2 showed success in their level of practice grade attainment in what can be considered the most challenging of clinical contexts. This achievement will have a positive impact on students' well-being and the confidence with which they make the transition to NQRN.

#### 5.2. Determinants of the final grade

This study provides results on which of the four areas defined in the grading tool has the most influence on a student's final grade. Since there is equal weighting of the four areas it is unsurprising that in the overall sample no one aspect proved more influential than the other in determining a student's final grade. However, we have shown differences in the influence of the four categories at cohort level. This difference could represent a change in the priorities practice assessors use to assess students from one year to the next. Grading of Cohort 1 was completed on or around September 2021 and, for Cohort 2, twelve months later in September 2022. With Cohort 1, clinical thinking and professionalism had the most influence on a student's final grade and in Cohort 2 a different pattern of influence was revealed with the assessment of a student's delivery of person-centered care and demonstration of patient safety, which were scored more highly and therefore had a greater influence on the final grade attained.

The lack of a consistent pattern of influence on final practice grade between cohorts could link to the design of the grading tool and the sequencing of objectives in the online tool. How the tool is completed, and the sequencing of objectives is important as this finding could reveal that assessors score objectives that appear later in the tool more highly than those that appear earlier. Earlier objectives received more detailed discussion and scrutiny but as the assessment progresses this focus shifts to completion and generation of a grade (Prentice et al., 2020). Students benefit most from practice assessors who actively engage in their mentorship and provide a supportive relationship (Mikkonen et al., 2022). The grading of practice should promote placement assessment as

a developmental process through constructive feedback and give assessors confidence in completing student-orientated assessments. The assessment that assessors and supervisors provide to students should enhance a student's clinical competence, support professional growth through reflection and cement a student's commitment to the nursing profession (Mikkonen et al., 2020). The assessment and feedback on a student's performance in clinical practice is pivotal to a student's learning and this grading practice tool provides a useful focus for debate and discussion.

Furthermore, adaptation of the tool, and closer attention to the sequencing of objectives and weighting of areas could generate a more subtle and informed outcome.

### 5.3. Correlation between a student's OSCE and final practice grade

The research provided results from one cohort (Cohort 2) to determine if there was any correlation between a student's overall final practice grade, performance in the four areas of the grading practice tool and their OSCE grade; no correlations were found. Our findings suggest that the assessment of clinical proficiency in an on-campus assessment (using an OSCE) goes only some way to replicating the theoretical knowledge, technical skills, patient-relationships and professional attributes expected in clinical practice. Previous research indicates the importance of consistency and the difficulty in grading students' clinical performance through examination (Dunbar, 2018). Potentially, this reveals that when assessing students' academic assessors look for different aspects of clinical performance than practice assessors. Academic assessors have been shown to be more familiar with academic standards, levels and the concept of assigning a score to students' submissions than practice assessors. Therefore, it is important that educational institutions provide assessors with adequate support to have confidence in their role (Mikkonen et al., 2022), particularly where this involves assigning a numerical grade since this is an area that they have least experience of.

### 5.4. Strengths and limitations

A convenience sample was used from one higher education institution which limits the generalization of the results beyond this pre-registration nursing programme and geographical context. The cross-sectional design restricts the level of data analysis to the use of descriptive statistics designed to determine associate between variables, but not the identification of causal effect. The pandemic had a significant impact on the learning of both student cohorts. This context may have some or little effect on the findings and may have impacted on each cohort in different ways. Reviewing subsequent cohorts when the pandemic has caused less disruption will determine if there was a 'pandemic' effect.

The strengths of the study are its large sample size, and the timely completion of data analysis and the generation of findings. The tool is completed online, which generates a full data set on a large number of students, in a time-efficient manner and with little missing data.

This exploratory study has not observed grading of practice in action, nor has it addressed the reliability of the GPT. To improve the rigour of grading practice the issues of reliability and validity need to be tested. The findings reported here will be used to further develop the research and, importantly, to refine and develop the GPT, including inter-rater reliability testing. Furthermore, the study has developed a data management system which can be applied to future cohorts of students, allowing more detailed analysis and comparison by employing a longitudinal design.

## 6. Conclusions

Assessing and grading students' practice performance is complex. Findings from a novel grading practice tool applied in pre-registration

nursing reveal how effectively the tool works and what areas of development and refinement are needed to enhance it. Students and practice and academic assessors; should be open to debate on how practice performance is assessed. If the usual approach to practice assessment (pass/fail) continues, then there is no development of means to support students to improve their practice performance. Grading practice encourages assessors to be explicit on what is being assessed and nurse educators can use this information to direct learning and teaching; to enhance students' confidence in their practice performance.

Ultimately, grading practice should empower students to engage in the process of assessing their practice learning; encourage their ongoing professional development; promote more reflective learning and provide valuable information for future employers.

### 6.1. Relevance for nurse education

Nursing students are completing their practice learning in increasingly challenging environments, with different models of care and shifting demographics and patterns of illness. Practice assessors operate in environments of significant service pressures and high clinical workloads, which impact on student learning. Nurse educators should look to maximize practice learning in ways that reflect the changing clinical environment. This study articulates a positive and innovative approach to assessing placement performance which is transparent and inclusive. The tool engages students and assessors to help overcome the lack of learning and time for reflection (Nordquist et al., 2019). Nurse educators must be responsive to the realities of the practice learning environment and explore new assessment strategies.

Practice learning is fundamental to how students develop professional awareness and learn to nurse. The NMC (2023) has recently confirmed that the proportion of time spent by students in the clinical environment will change with the inclusion of simulation alongside practice learning. As the clinical time that students value so much becomes compressed, grading practice tools will become increasingly important in supporting them to optimise their learning and achieve the level of clinical competence expected.

### CRedit authorship contribution statement

Conceptualisation, methodology: **Sarah Annesley, Marco Tomietto, Alan Platt, and James Wade.** Software and data analysis: **Marco Tomietto and Sarah Annesley.** Data curation, Writing, original draft preparation: **Sarah Annesley and Marco Tomietto.** Data Collection: **Sarah Annesley.** Supervision: **Marco Tomietto.** Reviewing and editing: **Marco Tomietto, Alan Platt, and James Wade.**

### Declaration of competing interest

The authors have no conflict of interests to declare.

### Acknowledgments

We thank our student and academic colleagues of Northumbria University (UK) for their effort in completing the grading practice tool enabling data collection and Steven Chippendale for his help in data extraction.

### Declaration statement for authors who are also editors

Given their role as Editor on this journal, Prof. Marco Tomietto had no involvement in the peer-review of this article and has no access to information regarding its peer-review. Full responsibility for the editorial process for this article was delegated to an independent Editor.

## Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

## References

- Chenery-Morris, S., 2014. Exploring students' and mentors' experiences of grading midwifery practice. *Evid. Based Midwifery* 12 (3), 101–106.
- Comparcini, D., Tomietto, M., Cicolini, G., Dickens, G.L., Mthimunya, K., Marcelli, S., Simonetti, V., 2022. Pre-registration nursing students? Anxiety and academic concerns after the second wave of COVID-19 pandemic in Italy: a cross-sectional study. *Nurse Educ. Today* 118, 105520. <https://doi.org/10.1016/j.nedt.2022.105520>.
- Data Protection Act, 2018. The GDPR chapter 2. Available at: <https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted>. (Accessed 26 June 2023).
- Donaldson, J.H., Gray, M., 2012. Systematic review of grading practice: is there evidence of grade inflation? *Nurse Educ. Pract.* 12 (2), 101–114. <https://doi.org/10.1016/j.nepr.2011.10.007>.
- Dunbar, S.S.S., 2018. Consistency in grading clinical skills. *Nurse Educ. Pract.* 31, 136–142. <https://doi.org/10.1016/j.nepr.2018.05.013>.
- Edwards, A., 2012. Grading practice: an evaluation one year on. *Nurse Educ. Today* 32, 627–629. <https://doi.org/10.1016/j.nedt.2012.04.018>.
- Elie, M., 2017. Grade inflation in nursing education: proposed solutions for an ongoing problem. *Nurs. Forum* 52, 387–391. <https://doi.org/10.1111/nuf.12152>.
- Fisher, M., Bower, H., Chenery-Morris, S., Galloway, F., Jackson, J., Way, S., Fisher, M. M., 2019. National survey: developing a common approach to grading of practice in pre-registration midwifery. *Nurse Educ. Pract.* 34, 150–160. <https://doi.org/10.1016/j.nepr.2018.11.014>.
- Heaslip, V., Scammell, J.M.E., 2012. Failing underperforming students: the role of grading in practice assessment. *Nurse Educ. Pract.* 12 (2), 5–100. <https://doi.org/10.1016/j.nepr.2011.08.003>.
- Hegenbarth, M., Rawe, S., Murray, L., Arnaert, A., Chambers-Evans, J., 2015. Establishing and maintaining the clinical learning environment for nursing students: a qualitative study. *Nurse Educ. Today* 35 (2), 304–309. <https://doi.org/10.1016/j.nedt.2014.10.002>.
- Helminen, K., Coco, K., Johnson, M., Turunen, H., Tossavainen, K., 2016. Summative assessment of clinical practice of student nurses: a review of the literature. *Int. J. Nurs. Stud.* 53, 308–319. <https://doi.org/10.1016/j.ijnurstu.2015.09.014>.
- IBM Corp. Released 2021. IBM SPSS Statistics for Windows, Version 28.0. Armonk, NY: IBM Corp.
- Mikkonen, K., Tomietto, M., Cicolini, G., Kaucic, B.M., Filej, B., Riklikiene, O., Juskauskienė, E., Vizcaya-Moreno, F., Pérez-Cañaveras, R.M., De Raeve, P., Kääriäinen, M., 2020. Development and testing of an evidence-based model of mentoring nursing students in clinical practice. *Nurse Educ. Today* 85, 104272. <https://doi.org/10.1016/j.nedt.2019.104272>.
- Mikkonen, K., Tomietto, M., Tuomikoski, A.-M., Miha Kaucić, B., Riklikiene, O., Vizcaya-Moreno, F., Pérez-Cañaveras, R.M., Filej, B., Baltinaite, G., Cicolini, G., Kääriäinen, M., 2022. Mentors' competence in mentoring nursing students in clinical practice: detecting profiles to enhance mentoring practices. *Nurs. Open.* 9, 593–603. <https://doi.org/10.1002/nop2.1103>.
- Nordquist, J., Hall, J., Caverzagie, K., Snell, L., Chan, M.-K., Thoma, B., Razack, S., Philibert, I., 2019. The clinical learning environment. *Med. Teacher.* 414, 366–372. <https://doi.org/10.1080/0142159X.2019.1566601>.
- Nursing and Midwifery Council NMC, 2018. Standards of Proficiency for Registered Nurses. NMC, London. Available. <https://www.nmc.org.uk/standards/standards-for-nurses/standards-of-proficiency-for-registered-nurses/>. (Accessed 12 December 2022). Available.
- Nursing and Midwifery Council NMC, 2018a. Part 2: Standards for Student Supervision and Assessment. NMC, London. Available. <https://www.nmc.org.uk/globalassets/sitedocuments/education-standards/student-supervision-assessment.pdf>. (Accessed 15 December 2022). Available.
- Nursing and Midwifery Council NMC, 2018b. The Code. Professional Standards of Practice and Behaviour for Nurses, Midwives and Nursing Associates. NMC, London. Available. <https://www.nmc.org.uk/globalassets/sitedocuments/nmc-publications/nmc-code.pdf>. (Accessed 9 December 2022). Available.
- Nursing and Midwifery Council NMC, 2020. Recovery and Emergency Standards. NMC, London. Available. <https://www.nmc.org.uk/standards-for-education-and-training/emergency-education-standards/>. (Accessed 13 January 2023). Available.
- Nursing and Midwifery Council NMC, 2023. Part 3: Standards for Pre-registration Nursing Programmes. NMC, London. Available at: <https://www.nmc.org.uk/globalassets/sitedocuments/standards/2023-pre-reg-standards/new-vi/standards-for-pre-registration-nursing-programmes.pdf>. (Accessed 28 April 2023). Available at.
- Prentice, S., Benson, J., Kirkpatrick, E., Schuwirth, L., 2020. Workplace-based assessments in postgraduate medical education: a hermeneutic review. *Med. Educ.* 54 (11), 981–992. <https://doi.org/10.1111/medu.14221>.
- Shirazi, F., Heidari, S., 2019. The relationship between critical thinking skills and learning styles and academic achievement of nursing students. *J. Nurs. Res.* 27 (4), e38 <https://doi.org/10.1097/jnr.0000000000000307>.
- Taylor, I., Bing-Jonsson, P., Wangensteen, S., Finnakk, E., Sandvik, L., McCormack, B., Fagerström, L., 2020. The self-assessment of clinical competence and the need for further training: a cross-sectional survey of advanced practice nursing students. *J. Clin. Nurs.* 29 (3–4), 545–555. <https://doi.org/10.1111/jocn.15095>.
- Tomietto, M., Oikarinen, A., Tuomikoski, A.M., Käsämänoja, T., Oikarinen, A., Juntunen, J., Mikkonen, K., 2022. The ward manager role in the context of nursing and midwifery students' clinical learning: testing a model. *J. Nurs. Manag.* 30 (1), 144–153. <https://doi.org/10.1111/jonm.13475>.
- Warne, T., Johansson, U.-B., Papastavrou, E., Tichelaar, E., Tomietto, M., den Bossche, K. V., Moreno, M.F.V., Saarikoski, M., 2010. An exploration of the clinical learning experience of nursing students in nine European countries. *Nurse Educ. Today* 30 (8), 809–815. <https://doi.org/10.1016/j.nedt.2010.03.003>.
- Way, M., S.F., Chenery-Morris, S., 2019. An evidence-based toolkit to support grading of pre-registration midwifery. *British J. Mid.* 27 (4), 251–257.
- Wu, X.V., Enskär, K., Pua, L.H., Heng, D.G.N., Wang, W., 2017. Clinical nurse leaders' and academics' perspectives in clinical assessment of final-year nursing students: a qualitative study. *Nurs. Health Sci.* 19 (3), 287–293. <https://doi.org/10.1111/nhs.12342>.