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Supervision and assessment in midwifery practice during a global pandemic: A cohort survey

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ABSTRACT

Aim: To evaluate new practice assessment processes in midwifery placements linked to a United Kingdom university during COVID-19.

Background: The new regulatory body standards for supervising and assessing practice of student nurses and midwives replaced the former mentorship model. Locally, these were implemented in conjunction with the Practice Assessment Toolkit – a resource developed from the national project exploring grading in midwifery practice. Emergency regulatory standards in response to the global pandemic impacted on student placements and temporarily created greater flexibility in assessing practice.

Design: A cohort survey using mixed methods.

Methods: Online questionnaires comprising qualitative and quantitative components targeted each of the four stakeholder groups: second and third-year student midwives, practice supervisors, practice assessors, midwifery academics. Aspects of the assessment process were explored including whether changes in the assessment process had influenced reliability, views of the Practice Assessment Toolkit and grading versus a binary pass/fail approach.

Results: Views were mixed about whether the new practice assessment process improved reliability, but the context of the global pandemic was acknowledged. Some clinicians embraced the changes more readily than others, and organisational approaches varied. There was a reliance on students' knowledge and understanding of requirements. Inconsistencies could have a detrimental effect on student learning and the reliability of assessment. Practice assessors relied on a range of practice supervisors' comments to make their decisions. Some participants considered that the separation of these roles enhanced reliability of assessment while others found it challenging. Detachment of students from the assessment process appeared to promote objectivity and honesty, potentially reducing grade inflation. The Practice Assessment Toolkit was useful and assisted reliability, however issues around individual expectations, application and relationships persisted. Most participants were in favour of retaining grading of practice in at least the final year of the midwifery programme. Qualitative themes comprised: Impetus for change; Reliance and reliability; Benefits of detachment; Mind the gap; To grade or not to grade.

Conclusions: This first evaluation of the new practice assessment process suggested it has potential to increase reliability, however this is dependent on individual and institutional understanding and adherence. The context of the global pandemic also influenced implementation and findings. The benefits of using consistent terminology were demonstrated through application of the Practice Assessment Toolkit. Further evidence is presented of the advantages and challenges of grading practice or using the binary approach. Recommendations are made to promote concepts identified in the findings and for future research.

Tweetable abstract: The first evaluation of the new NMC practice supervision and assessment process demonstrated its potential to increase reliability but depended on understanding and application. Concurrent use of the *Practice Assessment Toolkit* enhanced consistency in midwifery student assessment.

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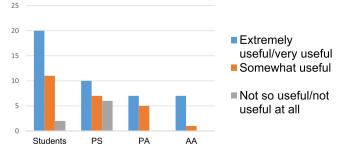
1. Introduction

This paper presents findings from an evaluation of the practice assessment process in a degree programme leading to midwifery registration at a university and seven hospital placements (trusts) in the southwest of England during 2020, during a global pandemic (World Health Organization, 2020). Experiences of the new United Kingdom Nursing and Midwifery Council (Nursing and Midwifery Council, 2018) 'Standards for student supervision and assessment' (SSSA), implemented locally in September 2019 and a toolkit developed during a national midwifery research project (Fisher et al., 2019a; Way et al., 2019) were explored.

Rationale for introduction of the NMC SSSA to all pre-registration UK nursing and midwifery programmes by September 2020 was multifactorial. Concerning national reports (Department of Health, 2013; National Health Service (NHS) England, 2013) led to recommended changes to health and social care regulation and education (Willis, 2015). Failure to fail was ubiquitous in the literature (Duffy, 2003; Bachmann et al., 2019; Bradshaw et al., 2019); subjectivity was found to be largely influenced by close student-mentor relationships (Bennett and McGowan, 2014; Helminen et al., 2016). The previous mentorship model (Nursing and Midwifery Council, 2008) required students to spend a minimum of 40% practice time under supervision of a designated registrant, limiting placement capacity. In contrast, the NMC (2018) SSSA created separate roles of practice supervisor (PS) and practice assessor (PA), supported by an academic assessor (AA). PSs could be any healthcare or social work registrants apart from the designated PA; their triangulated evidence informing the latter's objective decision about student progress and achievement.

An influential national midwifery project sought to reduce inconsistencies in grading practice, resulting in core assessment principles and an innovative 'Practice Assessment Toolkit' (PAT - Fisher et al., 2017a, 2017b; Way et al., 2019). Terminology commonly used across pre-registration midwifery programmes was collated into a set of tools to aid qualitative descriptions and assessment of levels of performance via visual 'Wordles' or word-clouds (Feinberg, 2013), a 'Lexicon Framework' comprising grammatical categorisation and a set of statements in 'Rubrics' (see Supplemental Material, Figs. 1-3). International literature similarly advocated a common practice assessment document (Mallik and McGowan, 2007; Bourbonnais et al., 2008; Mårtensson et al., 2020). A national Midwifery Ongoing Record of Achievement (MORA - Chenery-Morris, 2021; Fisher, 2021) was subsequently approved for England and Northern Ireland, aligned with the SSSA and new midwifery standards and proficiencies (Nursing and Midwifery Council, 2019a, 2019b). Common practice assessment documents already used in Scotland and Wales were adjusted to meet these requirements which permit individual educational institutions to exercise discretion in grading practice or using a binary pass/fail option, in contrast with previous mandatory grading (Nursing and Midwifery Council, 2009).

The academic midwifery team at the University of Plymouth conducted the first evaluation of implementation of the SSSA and PAT, identifying strengths and weaknesses of the new processes to create an



early evidence-base. It also captured midwifery practice assessment during a unique historical period in the context of COVID-19 (May et al., 2020).

Locally, qualified midwives were prepared for their new PS and PA roles during a face-to-face workshop. First and second-year midwifery students were introduced to the SSSA and PAT before their first placement and third-years explored concepts in depth during a teaching module (Fisher and Stanyer, 2018). The arrival of COVID-19 in the UK in March 2020 resulted in the NMC (2020)) 'Emergency standards for nursing and midwifery education' and withdrawal of all first-year nursing and midwifery students nationally from practice. These standards exceptionally allowed the same nurse or midwife to fulfil both roles of PS and PA and provided flexibility in grading practice. Locally, the decision was made to opt for pass/fail for second-year and grading for third-year students with its greater proportionate contribution to degree classification. No academic staff were permitted to go into clinical areas to reduce footfall and cross-infection, therefore PAs shared PS comments in the paper Ongoing Achievement Record (OAR) visually on screen or verbally with the AA via video or telephone at summative assessment. Attendance of students at this discussion was optional; most chose to be absent, but several subsequently received verbal feedback from their PAs.

2. Methods

A mixed-method cohort survey was conducted in August 2020 in line with the University Research Ethics Policy; committee approval was not required for evaluation of existing educational methods. Voluntary participation was invited after practice assessment had taken place; all data were anonymised at source. Participants were advised that it was intended to publish the results.

Four surveys were set up on Microsoft Forms (Microsoft, 2021), each comprising 10 questions targeted at key stakeholder groups. In total, 44 s-year and 38 third-year students were invited to complete the student version and provide their PSs and PAs with the link to their respective online forms. Students (and therefore their PSs and PAs) who intentionally deferred their practice assessment under university COVID-19 regulatory amendments were excluded. All members of the midwifery academic team (N = 10) were invited to participate and assisted with circulation to clinical colleagues. This purposive approach provided an opportunity for the full eligible population to contribute, rather than using convenience sampling (Davis and Scott, 2007).

The questionnaires were piloted by volunteers from all categories, reviewing those for different stakeholders to promote content and face validity (Calnan, 2007). All participants were asked their views of the PAT, whether changes in the SSSA and assessment process had influenced reliability and their views on continuing grading practice or moving to a binary pass/fail approach. Other questions explored aspects of the practice assessment process specific to each group. Examples of the latter included PS experience of writing evidence using the PAT and whether they had been influenced by others' comments. All questions

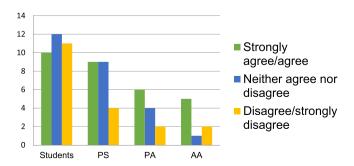


Fig. 2. Stakeholder views on whether the changes to the practice assessment process had increased reliability.

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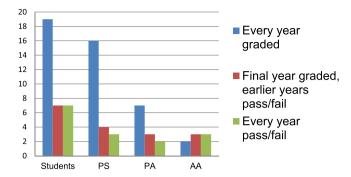


Fig. 3. Stakeholder views on whether to grade or use a binary pass/fail option in future curricula.

are incorporated in the Supplemental Material Tables, distinguishing between those which were common or discrete to stakeholder groups. Likert scales included the 'neutral' option to accommodate contextual factors and five-point scales were used to enhance decisions (Edwards and Smith, 2014). Free text comments were invited throughout, forming the qualitative elements of the questionnaires.

Analysis and synthesis were undertaken by a small team to reduce subjectivity and promote validity and credibility through mutual understanding of the context and topic (Kihlgren, 2016). A midwifery lecturer with expertise in the field of practice assessment led the evaluation; a recently qualified midwife who had completed the preparatory module in her third year and an external academic collaborated in analysis and synthesis of findings. Although the lead was known to most participants, anonymity of the online survey and involvement of colleagues enhanced rigour. Each independently coded anonymised qualitative responses, determining patterns and themes through inductive analysis (Creswell and Poth, 2018), cross-checking and agreeing these via an online meeting and email communication; triangulation enhancing authenticity (Kuckartz, 2014). Language used by participants added richness in interpretation and presentation of the findings (Simons, 2014). Descriptive quantitative statistics were manually calculated by the lead and verified by the team.

3. Results

Table 1 summarises the profile of participants, including known total populations. Similar numbers of students from September 18 (second-year) and September 17 (third-year) participated, comprising 36.4% and 44.7% of the respective groups. September 19 students were excluded from the survey as first-years were not in practice. Twice as many PAs for second-year students responded compared with those assessing third-years; two assessed students in more than one year. Most

Table 1

Profile	of	participants.
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Student cohorts	Students (N = 33)	Practice Supervisors (N = 23)	Practice Assessors (N = 12)	Academic Assessors (N = 8) [pop: 10]
Third year (September 17)	17 (51.5%) [pop: 38 assessed]	3 (13%)	3 (25%)	2 (25%)
Second year (September 18)	16 (48.5%) [pop: 44 assessed]	7 (30.4%)	7 (58.3%)	0 (0%)
First year (September 19)	N/A	3 (13%)	0 (0%)	0 (0%)
More than one year	N/A	10 (43.5%)	2 (16.7%)	6 (75%)

PSs and AAs supported students across cohorts. There was no empirical evidence of any participants in this study fulfilling dual roles of PS and PA, however subsequent anecdotal evidence from academics suggests that this did happen on occasions.

3.1. Quantitative results

Results are presented as percentages of total participants. Only trends were identified when making comparisons as participant numbers in each stakeholder group varied. For ease of presentation, similar responses were merged (eg: strongly agree and agree; not so useful and not at all useful). Several participants selecting the 'neutral' category provided a qualitative rationale.

3.1.1. Questions common to all stakeholder groups

Three questions were common to all stakeholder groups; these are presented in Supplemental Material Table 1. Most stakeholders found the PAT useful (Fig. 1). PAs and AAs were all either positive or neutral; PSs were least positive. Staff were more positive than students about whether the changes had improved reliability of the practice assessment process but many participants were neutral (Fig. 2). Qualitative responses elicited perceptions of contributory factors. Most participants were in favour of retaining grading of practice either in the final year or throughout the midwifery programme (Fig. 3). PSs and PAs were most supportive, followed by students; AAs were least in favour.

3.1.2. Other questions

Six questions were common to more than one stakeholder group; these are presented in Supplemental Material Table 2, where more detailed statistics can be found.

Only nine students were positive about their experience of the move to the SSSA; the majority were neutral (42.4%, n = 14), but all AAs said that this was 'easy'. Most PSs and PAs found the SSSA preparation sessions valuable, although a third of each group was neutral. When AAs were asked a similar question about delivering the sessions, 100% agreed/ strongly agreed that the workshop approach had worked well.

Twenty-one students (63.6%) stated that their PSs 'always' or 'usually' used the PAT to write comments, while 87.50% (n = 7) AAs concurred and eight PAs (66.7%) said that this was 'usually' the case. The written feedback from PSs was generally meaningful for students and helped PAs to make clear decisions about their progress and achievement.

Students had mixed views and experiences of meetings with their PAs, however most PAs (83.3%; n = 10) and AAs (87.5%; n = 7) were satisfied with this frequency. Twenty students (60.6%) stated that they were not present for their summative assessment. Most were happy with this decision, however three would have preferred to be present. Half the PAs (n = 6) stated that their students were present for this discussion and the other half were not. Only one PA would have preferred their student to be present; the remainder were happy with the outcome. AAs had experienced students being either present or absent; 62.5% (n = 5) thought that it was better when students were absent, while three (37.5%) preferred students to be present. Only one PS attended the summative assessment, but 78.3% (n = 18) indicated that they would have liked to have done so; their presence was not required by the NMC.

The remainder of the questions were specific to only one stakeholder group; further detail is presented in Supplemental Material Table 3.

Only 56.5% (n = 13) PSs were 'extremely' or 'very' confident that their comments would help the PA make their decisions; nine were 'somewhat' confident and one lacked confidence. In contrast, 83.3% PAs found the PS comments helped them to make clear decisions about student progress and achievement. Although 65.2% PSs (n = 15) 'always' or 'usually' found it useful to read what others had written, the vast majority 'rarely' or 'never' (91.3%, n = 21) changed their mind based on another PS's feedback; Fig. 4 highlights this contrast.

PSs were asked which of the tools in the PAT they preferred and were

able to select multiple options. Wordles were most popular (56.6%, n = 13) and Rubrics least (26.1%, n = 6). A quarter of PSs stated that they did not like or use the PAT. Although most students (63.6%, n = 21) found their PA's rationale for grades clear, ten were neutral. PAs were mostly satisfied or very satisfied with AA support (91.7%, n = 11).

3.2. Qualitative results

Table 2 indicates the sub-themes and main themes identified through inductive thematic analysis. Although there were some overlaps, the main associations are listed in the coding frame. Key themes were 'Impetus for change' and 'Reliance and reliability'. The former arose from numerous responses indicating factors initiating speedier or more effective change; for example, students proved a significant asset due to their understanding and vested interest. Patterns emerged in comments about reliability of the SSSA and PAT; reliance on others and their pivotal roles in implementing the changes were very evident. 'Benefits of detachment' related to comments about the absence of students from the assessment discussion. Time and context-specific constraints resulted in the theme 'Mind the gap'. Clear sub-themes emerged from the specific question about whether to continue grading practice. Each theme is explored below, illustrated by participant quotations formatted as: stakeholder group, question number, participant (e.g.: AA2c = Academic Assessor, question 2, participant c).

3.2.1. Impetus for change

Almost all PSs and PAs found the preparation session assisted them to understand the changes and purpose of the SSSA. The workshop run by AAs using the PAT provided guidance on the new roles and use of consistent terminology (several participants referring to these as 'buzz words'); not all trusts allocated sufficient time for these, however.

"The workshop using the PAT seemed to be pivotal in their understanding on the importance of consistent documentation and the distinction between the PA and PS roles." (AA2c).

Students similarly felt well prepared through their sessions at university. They recognised the importance of gathering the required evidence, prompted PSs to use the PAT and generally took the initiative in meeting with their PAs. AAs were unable to be physically present in clinical areas due to COVID-19, and one stated that it was helpful when students who attended signposted PAs to evidence to support their grading. This reliance on the students' contribution to the assessment process had reciprocal benefits but resulted in emotional and workload implications for students.

"Supervisors did not seem to know what they were doing it felt like it was the students pushing for things again which puts us under more pressure" (S2l).

Student co-ordinators and practice development midwives enhanced transition to the new processes. In one of the seven healthcare trusts, PAs took responsibility for a group of students in the same cohort to develop familiarity with expectations of that stage. PA forums enabled good practice and challenges to be shared.

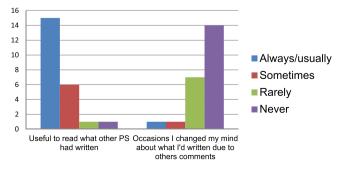


Fig. 4. Extent to which practice supervisors were influenced by comments from others.

Table 2 Coding frame.

Sub-themes	Themes	
Preparation session	Impetus for change	
Student impetus		
Staff impetus		
Reliability	Reliance and reliability	
Inter-dependence		
Independence		
Variety		
Consistency		
Inconsistency		
Bias		
Application (PAT)		
Student choice	Benefits of detachment	
(absence from summative discussion)		
Application (NMC standards)	Mind the gap	
Time constraints and workload		
Early days		
COVID-19 context		
Benefits of grading	To grade or not to grade?	
Disadvantages of grading		
Benefits of pass/fail		
Disadvantages of pass/fail		
Other alternatives		

"Successful implementation was enhanced by the approach taken by my link trust to standardising approaches." (AA3c).

3.2.2. Reliance and reliability

Most AAs considered that the new process had been more objective and therefore reliable, and one student suggested that concerns were more likely to be raised. Reliability in assessment was enhanced if individuals understood their roles, appropriate assessors were allocated, consistent terminology was used and enough comments were available from a range of people. Participants thought that the quality of evidence improved over the year, but several students considered that bias persisted. Four expressed dissatisfaction with congruence between grades and comments while others were clear on the rationale for decisions.

"I found supervisors improved their written feedback and became more willing to provide feedback as the year progressed." (S53).

"Between them and my academic assessor it seemed to be plucked out of thin air." (S80).

"Rationale clearly stated and was fair grading based on the comments." (S8d).

Inter-dependence between stakeholders was evident. Communication and supportive teams were valued, especially during COVID-19; AA availability was important in assisting understanding. PAs were dependent on PS's comments to enable them to assess students. Students recognised the value of triangulation; working with a range of PSs facilitated signing-off of competencies and enhanced reliability while constructive feedback aided their progress. Several students found continuity with their PS beneficial for learning but recognised the potential for bias.

"Practice assessors also found it more difficult to determine a grade where numbers of practice supervisors contributing to the evidence were limited; they grew frustrated when the majority of entries were from one or two individuals." (AA7c).

"I had worked hard to ensure as many comments as possible (including those from varying members of staff) were included which featured buzz words." (S8j).

"Continuity and consistency in supervision allowed for demonstrating progression and maintenance of a high level. However, the reality of this means that the majority of feedback was from the same member of staff and so bias can still persist." (S9i).

PSs used previous feedback to initiate discussions with students, find out if a similar mistake had occurred or consider others' opinions as they no longer worked as frequently with students. As indicated in Fig. 4, only two had consequently changed their minds. Three stated the importance of independently forming opinions and not being influenced by peers' perceptions, while two chose to use their own words rather than the PAT.

"My experience with working with a student should be individual and although there could be similarities, someone else's opinion should not sway my own." (PS7a).

"I understand that you don't want comments to be wishy-washy, but I would rather use my own words." (PS4c).

PS respondents seemed conscious of their responsibility. However, students and assessors stated that not all PSs provided meaningful feedback and some were reluctant to use terms such as 'excellent' or 'outstanding' if they had worked infrequently with the student. PAs struggled with the concept of assessing students without witnessing their practice and not all were confident in relying on colleagues' judgement; one student even suggested mistrust.

"I tried to use the buzz words and had in mind the assessor's needs." (PS5b.

"Some supervisors...didn't feel comfortable on a one off. They wanted to see our work more to be able to comment." (S9h).

"I find it very difficult to mark someone who I have never worked with." (PA9b).

"The assessor was erring on the side of caution because 'they don't trust so and so midwife'." (S9n).

The PAT was generally viewed as helpful and easy to use, with Wordles being particularly popular amongst PSs. Four students stated that PSs struggled to formulate comments, felt overwhelmed by the number of options, found terminology repetitive or that criteria overlapped; one PS said the tools were incredibly complex. A couple of students said that the focus on words to match grades seemed forced and several said writing comments could be time consuming, however it was noted that use of consistent terminology and examples made the process easier for all parties. Students considered that the PAT acknowledged their skills and level of knowledge, helping them know how to improve in future. PAs seemed to find the PAT particularly useful in determining higher grades, basing decisions on terminology used rather than going into automatic 'top grade'. Three AAs commented that the PAT helped achieve fair grading.

"The logic behind using an assessment toolkit is sound to encourage impartiality." (PS4a).

"The toolkit really helped them to form comments however lots of the words overlap in the criteria so it was not always clear." (S3h).

"Very clear, easy to follow with choices. Helped to achieve a fair grading." (AA5d).

3.2.3. Benefits of detachment

Detachment of students from the summative assessment meetings appeared to promote objectivity and honesty, enhance reliability and potentially reduce grade inflation. Most participants seemed positive when students chose to be absent from this discussion. Three students preferred this to previous experiences of hearing themselves being discussed, although one appreciated witnessing rationalising of decisions. Mutual agreement was important and post-assessment feedback was valued.

"I hated being present in previous years. It is awkward to hear people discuss you." (S7d).

"I found the discussions easier as the individual student's feelings did not need to be considered...any issues could be openly explored." (AA8b).

3.2.4. Mind the gap

Although most students adjusted well to the changes, several commented that PSs and PAs found the requirements of their new roles confusing. Inconsistencies were evident in individual approaches and organisational application; this could have a detrimental effect on student learning and the reliability of assessment.

"Some supervisors simply refused as they hadn't worked with me enough,

and some were unsure as to what it was they were allowed to sign me off for." (S2k).

"This depends on trust interpretation of allocating supervisors." (S9i).

Time constraints, working pattern and location were challenging. The need for multiple comments increased workload for both the students and PS.

"It can be quite time-consuming for them, especially on a busy shift" (S3d).

Participants recognised that time was needed to embed the new SSSA and PAT; one PS said it was too early to tell if these changes had made a difference, although others were optimistic.

"I think once better embedded will definitely help." (PS9c).

COVID-19 was identified as a confounding variable in assessing reliability of the new changes, however it also brought some benefits.

"Due to location of my PA and Covid-19, I never met my assessor and had someone else sign me off in the end." (S6b).

"Meetings were more frequent due to support required during COVID. It is unlikely that we would have met as frequently in normal times." (AA4c).

3.2.5. To grade or not to grade?

All groups were asked whether grading should continue every year, only in the final year with earlier years pass/fail or every year pass/fail. Free text comments elicited advantages and disadvantages of each option.

Grading was viewed as a useful indicator of level of practice, reflecting progress and highlighting improvements needed. Participants suggested that students who worked hard were rewarded and others were motivated to do better. Academically weaker students had good practice acknowledged and they gained confidence. The option for hypothetical grades to supplement binary pass/fail assessment was welcomed by four second-year students.

"I feel the grading is a reflection on how well the student has done and recognising what they have achieved. It is a fantastic opportunity to encourage and motivate students going forward." (PS10a).

"Although our grades didn't count this year due to COVID, it was great to still get graded so I could see what level I was working at for the future." (S81).

Other participants perceived grading to be subjective, unfair and variable despite the changes to the process; this influenced confidence. It was also suggested that the focus on grades could be unhealthy and potentially unsafe. Notably, no PAs commented on disadvantages of grading.

"To one supervisor, you may be outstanding to another you may be good. It can really knock your confidence." (S10j).

"There remains an unhealthy obsession and competition between students and sometimes assessors regarding grades." (AA10b).

"Achieving exceptionally high grades may cause complacency in practice which has the potential for unsafe care." (S10l).

Pass/fail prevented comparisons between students, was less stressful and promoted parity across placement areas. One student stated that practice was either safe and competent or not, and another that the grade was irrelevant post-registration. However, several participants considered that pass/fail did not value individual effort, was too vague and generalised.

"It would create greater parity across a diverse placement area." (S10m). "Much simpler process." (PA10a).

"I was told I would have gained 90/100 which I was really pleased with but only counted as a pass." (S10j).

"The phrases 'It's just a pass/fail' or 'It doesn't matter as much as they aren't graded' were heard on several occasions from several sources." (AA10c).

Two participants suggested other alternatives to percentages which still rewarded achievement and acknowledged different levels of performance.

"I would much prefer to use words which everybody understands, such as 'outstanding', 'competent', 'dependent' or 'unsafe.' (PS10h).

"...for there to be an additional award (pass, merit, distinction).acknowledges exceptional performance in practice without contributing to the overall degree grade inflation." (S101).

4. Discussion

Challenges and opportunities were identified in this unique snapshot of the reality of implementing the new SSSA within the context of the COVID-19 pandemic. Complications arose which may not have presented under normal circumstances, but it was also possible to compare perceptions of grading and pass/fail in the same programme due to flexibility in the NMC (2020) emergency standards.

Despite favourable comments about the preparation sessions, not all clinicians fully embraced the SSSA changes. Non-compliance has been identified particularly when practice environments are busy or relationships prioritised (Chenery-Morris, 2021). Limitations to skills and understanding compromise the quality and reliability of practice assessment (Fisher et al., 2011; Duffy et al., 2016; Burden et al., 2017). Although responses to the survey suggested that participants had fulfilled discrete roles of PS and PA, despite temporary flexibility permitted by the NMC, it is vital to redress the potential to blur boundaries and compromise triangulation, reflecting the Australian approach where separation between roles is considered essential to avoid conflict of interest (NMC New South Wales, 2011).

Some students appeared to enjoy positive relationships and actively sought feedback, demonstrating motivation to learn which Levett- Jones et al. (2009) associated with a sense of belonging. Others received limited comments; Plakht et al. (2013) found that this could be the result of poor relationships with assessors. PS reluctance to document evidence until they had worked more with the student, or preference for providing positive rather than constructive feedback, jeopardised reliability of assessment and risked the student's professional development. The benefits of continuity of supervision are widely reported in the literature (Chenery-Morris, 2015; Hallam and Choucri, 2019) and a small-team approach would balance the NMC requirements with the importance of ensuring students maintain a sense of belonging and receive opportunities to progress in their learning.

Inter-dependence between PAs and PSs is fundamental to the new SSSA approach. Several students and PSs criticised the separation of roles, although others acknowledged that previous or close relationships could influence candid feedback, tending towards leniency bias (Fazio et al., 2013) or a 'halo effect' (Smith, 2007), thereby contributing to the potential for failure to fail (Briscoe et al., 2006; Jervis and Tilki, 2011). Some PSs demonstrated lack of confidence in their comments; eroded self-belief has been identified as obstructive to grading practice (Heaslip and Scammell, 2012; Chenery-Morris, 2021). However, Fig. 4 suggested inter-supervisor agreement on student performance and certainty in decision-making. Continued work is needed to improve the culture of trust in colleagues' opinions. This will depend on PSs demonstrating accountability by using consistent terminology to provide unbiased feedback and PAs accepting that they can no longer rely on personal experience.

Fisher et al. (2017) previously highlighted variable approaches across UK universities, with students not always attending summative assessment. Technological advances accelerated globally during the pandemic (Lischer et al., 2021), enabling practice assessment to be tailored to individual preferences through remote discussions. The decision by many students to absent themselves was viewed positively by most participants. Although student passivity has previously been documented (Haigh et al., 2007; Fisher et al., 2011; Chenery-Morris, 2014), this study suggested that students demonstrated agency by using their own power to enhance the process. Chenery-Morris (2021) similarly found that students who understood the system tended to have greater authority and impact. The national MORA requires students to discuss their progress with their PA; this will enable students to signpost assessors to evidence and receive feedback, but separate discussions to confirm decisions including grading may now be held in-person or remotely between PA and AA. Locally, this has now been facilitated through an electronic MORA.

The benefits of grading reflected those in the wider literature, including benchmarking, encouraging efforts and boosting confidence (Donaldson and Gray, 2012; Heaslip and Scammell, 2012; Lefroy et al., 2015; Hallam and Choucri, 2019). Fewer participants favoured the binary pass/fail option, citing advantages of simplicity and parity, avoiding de-motivation and reducing subjectivity. Notably, although twice as many PAs for second-year students (pass/fail) responded compared with third-year students (graded), 83.33% were positive about continuing partial or full grading.

Although congruence between grades and comments was not always evident, the combination of SSSA and PAT appeared to enhance reliability and potentially reduce grade inflation – another challenge widely reported in healthcare literature (Cacamese et al., 2007; Donaldson and Gray, 2012; Paskausky and Simonelle, 2014; Roden, 2016). The benefit of a range of tools to appeal to different learning styles or personalities was demonstrated, with the innovative Wordles and Lexicon Frameworks being preferred to commonly used rubrics (Johnsson and Svingby, 2007; Donaldson and Gray, 2012).

4.1. Limitations

Several students deferred submission of their practice assessment, reducing the number of eligible PSs and PAs. Many more students participated than other stakeholders, although response rates were low. Differences in representation between categories may contribute to systematic bias (Faber and Fonseca, 2014). Caution was therefore exercised in making claims or drawing inferences (Wallace and Wray, 2016). Non-respondent perspectives were unknown; varied senses of agency may have influenced both participation and the experience of practice assessment, although anonymity was maintained. The small academic team had personal investment in the new processes which may have affected responses. Studying one's own organisation may cause challenges but also bring benefits of reciprocity (Creswell and Poth, 2018). Having been the principal investigator in the national project on grading practice, acknowledgement of the lead academic's reflexivity led to involvement of a small team in analysing findings to reduce bias through consensual validation (Eisner, 2002). Participative writing also strengthened credibility by enhancing transparency, trustworthiness and quality (Saldaña, 2014; Wallace and Wray, 2016). Formal ethical approval should be sought for UK-wide research to explore experiences of the SSSA, PAT and MORA once these become embedded and the impact of COVID-19 is reduced; consistency of this national assessment document will enhance comparisons.

5. Conclusions

Although grading of practice is no longer mandatory in midwifery education in the UK (NMC, 2019a, 2019b), this study has highlighted the advantages and challenges of both grading and the binary approach. The first formal evaluation of the PAT demonstrated the benefits of using consistent terminology and a toolkit of resources to support practice assessment.

There are concerns that NMC adaptations during the pandemic, permitting temporary blurring of PS and PA roles, may delay embedding of the significant cultural and practice change from the previous mentorship model in both nursing and midwifery. Our study therefore presents early evidence to support other educational institutions and practice settings in anticipating and addressing the challenges posed by the SSSA requirements. It also provides a unique snapshot of the impact of COVID-19 on midwifery education and practice assessment which may resonate internationally.

It is recommended that:

- Small teams provide continuity of practice supervision and triangulation of evidence
- Consistent terminology is used to record unbiased feedback; the PAT may assist in structuring statements and is openly accessible on the internet
- Opportunities should be provided for staff to practise writing and assessing comments to increase confidence in the process of measuring non-witnessed performance
- Flexible approaches are taken to student involvement in decisions about summative assessment, especially if grading practice
- Technology is used to facilitate the assessment process and communication
- Further research is conducted to extend the evidence-base.

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CRediT authorship contribution statement

Margaret Fisher: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Data curation, Writing – original draft, Writing – review & editing, Visualization, Supervision, Project administration. **Abbie Tomson:** Validation, Formal analysis, Writing – review & editing, Visualization. **Samantha Chenery-Morris:** Validation, Formal analysis, Writing – review & editing, Visualization.

Note that Abbie Tomson was previously Abbie Rich.

Declaration of Competing Interest

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Appendix A. Supporting information

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References

- Bachmann, L., Groenvik, C.K.U., Hauge, K.W., Julnes, S., 2019. Failing to Fail nursing students among mentors: a confirmatory factor analysis of the Failing to Fail scale. Nurs. Open 6 (3), 966–973. https://doi.org/10.1002/nop2.276. Accessed 28/6/21.
- Bennett, M., McGowan, B., 2014. Assessment matters mentors need support in their role. Br. J. Nurs. 23 (9), 454–458. https://doi.org/10.12968/bjon.2014.23.9.454. Accessed 28/6/21.
- Bourbonnais, F.F., Langford, S., Giannantonio, L., 2008. Development of a clinical evaluation tool for baccalaureate nursing students. Nurse Educ. Pract. 8, 62–71. https://doi.org/10.1016/j.nepr.2007.06.005. Accessed 28/6/21.
- Bradshaw, C., Pettigrew, J., Fitzpatrick, M., 2019. Safety first: factors affecting preceptor midwives experiences of competency assessment failure among midwifery students. Midwifery 74, 29–35. https://doi.org/10.1016/j.midw.2019.03.012. Accessed 28/ 6/21.
- Briscoe, G., Carlson, M., Arcand, L., Levine, M., Cohen, M., 2006. Clinical grading in psychiatry clerkships. Acad. Psychiatry 30 (2), 104–109. https://doi.org/10.1176/ appi.ap.30.2.104. Accessed 28/6/21.
- Burden, S., Topping, A.E., O'Halloran, C., 2017. Mentor judgements and decision making in the assessment of student nurse competence in practice: a mixed-methods study. J. Adv. Nurs. 74 (5), 1078–1089. https://doi.org/10.1111/jan.13508. Accessed 28/ 6/21.

- Cacamese, S.M., Elnicki, M., Speer, A.J., 2007. Grade inflation and the internal medicine subinternship: a national survey of clerkship directors. Teach. Learn. Med. 19 (4), 343–346. https://doi.org/10.1080/10401330701542529. Accessed 28/6/21.
- Calnan, M., 2007. Quantitative survey methods in health research. In: Saks, M., Allsop, J. (Eds.), Researching Health: Qualitative, Quantitative and Mixed Methods. SAGE Publications Ltd, London, pp. 174–196.
- Chenery-Morris, S., 2014. 'Exploring students' and mentors' experiences of grading midwifery practice'. Evid. Based Midwifery 12 (3), 101–106 https://pre.rcm.org.uk/ media/2774/evidence-based-midwifery-september-2014.pdf#29 (Accessed 28/6/ 21).
- Chenery-Morris, S., 2015. The importance of continuity of mentorship in pre-registration midwifery. Evid. Based Midwifery 13 (2), 47–53. Available at: https://www.rcm.org. uk/media/2779/evidence-based-midwifery-june-2015.pdf (Accessed 13/2/22).
- Chenery-Morris, S., 2021. Grading Student Midwives' Practice: A Case Study Exploring Relationships, Identity and Authority. Routledge.
- Creswell, J.W., Poth, C.N., 2018. Qualitative Inquiry and Research Design: Choosing Among Five Approaches, fourth ed. SAGE, London.
- Davis, P., Scott, A., 2007. Health research sampling methods. In: Saks, M., Allsop, J. (Eds.), Researching Health: Qualitative, Quantitative and Mixed Methods. SAGE, Los Angeles, pp. 155–173.
- Department of Health, 2013. Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry (Francis Report). The Stationery Office, London. https://webarchive. nationalarchives.gov.uk/20150407084231/http://www.midstaffspublicinquiry. com/report (Accessed 28/6/21).
- Donaldson, J., 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. Accessed 28/6/21.
- Duffy, K., 2003. Failing students: a qualitative study of factors that influence the decisions regarding assessment of students' competence in practice. Glasgow Caledonian University: Caledonian Nursing and Midwifery Research Centre. http:// citeseerx.ist.psu.edu/viewdoc/download? doi=10.1.1.515.2467&rep=rep1&type=pdf (Accessed 28/6/21).
- Duffy, K., McCallum, J., McGuinness, C., 2016. Mentors in waiting. Nurse Educ. Pract. 16 (1), 163–169. https://doi.org/10.1016/j.nepr.2015.10.002. Accessed 28/6/21.
- Edwards, M.L., Smith, B.C., 2014. The effects of the neutral response option on the extremeness of participant responses. Incite J. Undergrad. Scholaship 6. https://blogs.longwood.edu/incite/2014/05/07/the-effects-of-the-neutral-response-option-on-the-extremeness-of-participant-responses/ (Accessed 28/6/21).
- Eisner, E.W., 2002. The Educational Imagination: On the Design and Evaluation of School Programs. Prentice Hall, New Jersey.
- Faber, J., Fonseca, L.M., 2014. How sample size influences research outcomes. Dent. Press J. Orthod. 19 (4), 27–29. https://doi.org/10.1590/2176-9451.19.4.027-029. ebo. Accessed 28/6/21.
- Fazio, S.B., Papp, K.K., Torre, D.M., De Fer, T.M., 2013. Grade inflation in the internal medicine clerkship: a national survey. Teach. Learn. Med. 25 (1), 71–76, 10.1080/ 10401334.2012.741541 (Accessed 28/6/21).
- Feinberg, J., 2013. Wordle Beautiful Word Clouds. Scientific Research: An Academic Publisher. https://www.scirp.org/(S(i43dyn45teexjx455qlt3d2q))/reference/ ReferencesPapers.aspx?ReferenceID=1105529 (Accessed 28/6/21).
- Fisher, M., Proctor-Childs, T., Callaghan, L., Stone, A., Snell, K., Craig, L., 2011. Assessment of Professional Practice: Perceptions and Principles. Nova Science Publishers, New York.
- Fisher, M., Bower, H., Chenery-Morris, S., Jackson, J., Way, S., 2017. A scoping study to explore the application and impact of grading practice in pre-registration midwifery programmes across the United Kingdom. Nurse Educ. Pract. 24 (May), 99–105 https://doi.org/10.1016/j.nepr.2016.01.007 (Accessed 28/6/21).
- Fisher, M., Way, S., Chenery-Morris, S., Jackson, J., Bower, H., 2017. Core principles to reduce current variations that exist in grading of midwifery practice in the United Kingdom. Nurse Educ. Pract. 3 (March), 54–60 https://doi.org/10.1016/j. nepr.2017.02.006 (Accessed 28/6/21).
- Fisher, M., Stanyer, R., 2018. Peer mentoring: enhancing the transition from student to professional. Midwifery 60 (May), 56–59 https://doi.org/10.1016/j. midw.2018.02.004 (Accessed 28/6/21).
- 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. Accessed 28/6/21.
- Fisher, M., Bower, H., Chenery-Morris, S., Galloway, F., Jackson, J., Way, S., 2019b. Practice Assessment Toolkit. National 'Grading of Practice in Pre-registration Midwifery' Project. https://www.plymouth.ac.uk/research/national-grading-ofpractice-in-pre-registration-midwifery-project (Accessed 28/6/21).
- Fisher, M.L., 2021. Engaging, enabling and embedding professionalism through scrutiny of practice in healthcare, 01 Research Theses Main Collection PEARL, University of Plymouth. https://pearl.plymouth.ac.uk/handle/10026.1/16816 (Accessed 28/6/ 21).
- Haigh, J., Dearnley, C., Meddings, F., 2007. The impact of an enhanced assessment tool on students' experience of being assessed in clinical practice: a focus group study. Pract. Evid. Scholarsh. Teach. Learn. High. Educ. 2 (1), 21–41. (http://hdl.handle. net/10454/14704).
- Hallam, E., Choucri, L., 2019. 'A literature review exploring student midwives' experiences of continuity of mentorship on the labour ward'. Br. J. Midwifery 27 (2), 115–119. https://doi.org/10.12968/bjom.2019.27.2.115. Accessed 28/6/21.
- Heaslip, V., Scammell, J.M.E., 2012. Failing underperforming students: the role of grading in practice assessment. Nurse Educ. Pract. 12 (2), 95–100. https://doi.org/ 10.1016/j.nepr.2011.08.003. Accessed 28/6/21.

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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. Accessed 28/6/21.

- Jervis, A., Tilki, M., 2011. Why are nurse mentors failing to fail student nurses who do not meet clinical performance standards? Br. J. Nurs. 20 (9), 582–587. https://doi. org/10.12968/bjon.2011.20.9.582. Accessed 28/6/21.
- Johnsson, A., Svingby, G., 2007. The use of scoring rubrics: reliability, validity and educational consequences. Educ. Res. Rev. 2 (2), 130–144 https://doi.org/10.1016/ j.edurev.2007.05.002 (Accessed 28/6/21).
- Kihlgren, P., 2016. Do we need validity? A critical appraisal of validity in qualitative research, Lund University Libraries, LUP Student Papers. http://lup.lub.lu.se/ student-papers/record/8886747 (Accessed 28/6/21).
- Kuckartz, U., 2014. Qualitative Text Analysis: A Guide to Methods, Practice and Using Software. SAGE, Thousand Oaks, California.
- Lefroy, J., Hawarden, A., Gay, S., McKinley, R.K., Cleland, J., 2015. Grades in formative workplace-based assessment: a study of what works for whom and why. Med. Educ. 49 (3), 307–320 https://doi.org/10.1111/medu.12659 (Accessed 28/6/21).
- Levett- Jones, T., Lathlean, J., Higgins, I., McMillan, M., 2009. Staff-student relationships and their impact on nursing students' belongingness and learning. J. Adv. Nurs. 65 (2), 316–324. https://doi.org/10.1111/j.1365-2648.2008.04865.x. Accessed 28/6/ 21.
- Lischer, S., Safi, N., Dickson, C., 2021. Remote learning and students' mental health during the Covid-19 pandemic: a mixed-method enquiry. Prospects. https://doi.org/ 10.1007/s11125-020-09530-w (Accessed 18/2/22).
- Mallik, M., McGowan, B., 2007. Issues in practice based learning in nursing in the United Kingdom and the Republic of Ireland: results from a multi professional scoping exercise. Nurse Educ. Today 27 (1), 52–59 doi: 10.1016/j.nedt.2006.02.007 (Accessed 28/6/21).
- Mårtensson, G., Lind, V., Edin, K., Hedberg, P., Löfmark, A., 2020. Development and validation of a clinical assessment tool for postgraduate nursing education: a consensus-group study. Nurse Educ. Pract. 44 https://doi.org/10.1016/j. nepr.2020.102741. Accessed 28/6/21.
- May, R., McArdle, C., McQueen, F., White, J., Sutcliffe, A., 2020. Supporting nurses and midwives throughout the second COVID-19 wave. Joint letter (20.11.20). https:// www.nmc.org.uk/news/news-and-updates/joint-letter-second-wave-covid/ (Accessed 28/6/21).
- Microsoft, 2021. Microsoft Forms, Microsoft 365. https://www.microsoft.com/en-us/ microsoft-365/online-surveys-polls-quizzes (Accessed 28/6/21).
- NHS England, 2013. Review into the Quality of Care and Treatment provided by 14 Hospital Trusts in England: Rapid Responsive Review Report for Risk Summit (Keogh report). Colchester Hospital University NHS Foundation Trust. https://www.nhs.uk/ NHSEngland/bruce-keogh-review/Documents/outcomes/Colchester%20Hospital% 20University%20NHS%20Foundation%20Trust%20RRR%20report.pdf (Accessed 28/6/21).
- Nursing and Midwifery Council, 2008. Standards to support learning and assessment in practice. London: Nursing and Midwifery Council. https://www.nmc.org.uk/ globalassets/sitedocuments/standards/nmc-standards-to-support-learningassessment.pdf (Accessed 28/6/21).
- Nursing and Midwifery Council, 2009. Standards for pre-registration midwifery education. London: Nursing and Midwifery Council. https://www.nmc.org.uk/ globalassets/sitedocuments/standards/nmc-standards-for-preregistrationmidwifery-education.pdf (Accessed 28/6/21).

- Nursing and Midwifery Council, 2018. Part 2: Standards for student supervision and assessment. Nursing and Midwifery Council, London. https://www.nmc.org.uk/ standards-for-education-and-training/standards-for-student-supervision-andassessment/ (Accessed 28/6/21).
- Nursing and Midwifery Council, 2019a. Standards for pre-registration midwifery programmes. London: Nursing and Midwifery Council. https://www.nmc.org.uk/ globalassets/sitedocuments/standards/standards-for-pre-registration-midwiferyprogrammes.pdf (Accessed 28/6/21).
- Nursing and Midwifery Council, 2019b. Standards of proficiency for midwives. London: Nursing and Midwifery Council. https://www.nmc.org.uk/globalassets/ sitedocuments/standards/standards-of-proficiency-for-midwives.pdf (Accessed 28/ 6/21).
- Nursing and Midwifery Council, 2020. Emergency standards for nursing and midwifery education. London: Nursing and Midwifery Council. https://www.nmc.org.uk/ globalassets/sitedocuments/education-standards/emergency-standards-for-nursingand-midwifery-education.pdf (Accessed 28/6/21).
- Nursing and Midwifery Council New South Wales, 2011. Mentor guidelines. https:// www.nursingandmidwiferycouncil.nsw.gov.au/sites/default/files/nursing_and_ midwifery_council_mentoring_guidelines_april_2011_1.pdf (Accessed 18/2/22).
- Paskausky, A.L., Simonelle, M.C., 2014. Measuring grade inflation: a clinical grade discrepancy score. Nurse Educ. Pract. 14 (4), 374–379. https://doi.org/10.1016/j. nepr.2014.01.011. Accessed 28/6/21.
- Plakht, Y., Shiyovich, A., Nusbaum, L., Raizer, H., 2013. The association of positive and negative feedback with clinical performance, self-evaluation and practice contribution of nursing students. Nurse Educ. Today 33 (10), 1264–1268, 10.1016/j. nedt.2012.07.017 (Accessed 28/6/21).
- Roden, P., 2016. Do occupational therapy graduates benefit from grade inflation on practice placements? Br. J. Occup. Ther. 77 (3), 134–138 https://doi.org/10.4276/ 030802214X13941036266504 (Accessed 28/6/21).
- Saldaña, J., 2014. Coding and analysis strategies. In: Leavy, P. (Ed.), The Oxford Handbook of Qualitative Research. Oxford University Press, Oxford, pp. 581–605.
- Simons, H., 2014. Case study research: in-depth understanding in context. In: Leavy, P. (Ed.), The Oxford Handbook of Qualitative Research. Oxford University Press, Oxford, pp. 455–470.
- Smith, J., 2007. Assessing and grading students' clinical practice: midwives' lived experience. Evid. Based Midwifery 5 (4), 112–118. (https://go.gale.com/ps/i.do?id =GALE%7CA17205073&sid=googleScholar&v=2.1&it=r&linkaccess=a bs&issn=14794489&p=AONE&sw=w&userGroupName=anon%7E265a1a01). Accessed 28/6/21.
- Wallace, M., Wray, A., 2016. Critical Reading and Writing for Postgraduates, third ed. SAGE, London.
- Way, S., Fisher, M., Chenery-Morris, S., 2019. An evidence-based toolkit to support grading of pre-registration midwifery practice. Br. J. Midwifery 27 (4), 251–257 https://doi.org/10.12968/bjom.2019.27.4.251 (Accessed 28/6/21).
- Willis, D., 2015. Raising the Bar. Shape of Caring: A Review of the Future Education and Training of Registered Nurses and Care Assistants. Health Education England, London. https://www.hee.nhs.uk/sites/default/files/documents/2348-Shape-ofcaring-review-FINAL.pdf (Accessed 28/6/21).
- World Health Organization, 2020. WHO announces COVID-19 outbreak a pandemic, World Health Organization Regional Office for Europe. https://www.euro.who.int/ en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/ who-announces-covid-19-outbreak-a-pandemic (Accessed 28/6/21).