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INTRODUCTION

This paper presents the use of an interview data collection method, Stimulated Recall that integrates use of an artefact, to gain insights into mentor decision making associated with summative assessment of students in practice. The approach was used as part of a larger study initiated in response to concerns expressed about the reliability of decisions taken by mentors regarding student competence (NMC 2008). Capturing retrospectively decisions that are based upon sustained engagement and interaction between a student and their mentor was a key design challenge for the study. One approach, embedded here in the larger mixed methods design (Creswell & Plano Clark 2011), was to explore mentor decisions recorded in Practice Assessment Documents (PADs) for a cohort of undergraduate nursing students (n=41) across a three year programme. This part of the investigation included in depth analysis of forty three final placement decisions and interviews with seventeen mentors to explore their decision making processes. The PADs completed by mentors about specific students were used as the interview artefact; objects created by an individual or detailing events where they made a contribution. These were used to stimulate recall of the decision making processes used by the (sign-off) mentors involved in assessing students in their final placement.

This paper reports on the use of student PADs as artefacts in those semi-structured interviews, discussing and evaluating how they can stimulate recall of events, feelings, beliefs and personal practices. An outline of the process drawn from the mentor study is provided to illuminate the approach. Stimulated Recall Methodology (Lyle 2003) underpinning the interview approach is considered and the rationale for selection discussed. The overall design of the study and conduct of the mentor interviews is provided to demonstrate how artefact use within a semi-structured interview can facilitate recall and enrich interview data generated. Finally a reflection of artefact use and implications for wider application is given.

BACKGROUND

Practice experience holds a pivotal place in the education of pre-registration nurses, providing opportunity for situated learning and assessment in order to deliver a competent workforce (Cope et al 2000, O'Driscoll et al 2010, Robinson et al 2012). Key to this experience is the role of the mentor, a registered nurse, who supports, critiques and assesses student competence and confirms proficiency at the point of registration (NMC 2008, Shakespeare & Webb 2008). Supporting practice learning and more importantly assessing competence is considered a complex and difficult task (Moseley & Davies 2008, Taylor et al 2010), and recurring concerns have been expressed that students may rarely receive a fail judgement from mentors in practice based assessments (Andrews et al 2006, Duffy 2006, Glen 2009, Hunt et al 2012). Certainly the literature is replete with studies where mentor decisions have been examined and significant discussion has ensued regarding the phenomenon of mentors 'failing to fail' students in practice (Scanlan et al 2001, Scholes & Albarran 2005, Duffy 2006, Luhanga et al 2008, Black 2011, Jervis & Tilki 2011). This phenomenon may limit the confidence and trust that can be placed in the outcomes of competence assessment (Duffy 2006, Cassidy 2009, Black 2011, Jervis & Tilki 2011, Hunt et al 2012). This lack of confidence and trust in decision-making underpinned the motivation to conduct this study and specifically how mentors formed judgements and reached a decision regarding student competence in practice.

To develop the approach and identify data collection methods for the study, a systematic literature search via EBSCO host was conducted, which focussed on the key term '*mentor decision making*' and surrogate terms '*decision making*', '*clinical reasoning*', '*clinical decision making*', '*mentor judgements*', '*student assessment*' and '*assessment of competence*' in combination to access relevant literature. The combination '*mentor decisions and student nurses*' yielded only one result (Duffy 2003), confirming her comments that no other studies had specifically examined the decision making processes and models used by mentors to assess students (Duffy 2006), and making a

recommendation proposing student competency decisions should be examined utilising judgement and decision making frameworks (Duffy 2006, Black 2011). The combination '*mentor judgements and student nurses*' again yielded Duffy's (2003) study and one other, which examined how mentors made judgements about students' clinical competence (Webb & Shakespeare 2008). Both illustrated the usefulness of interviews for examining mentor decisions, with the latter identifying the limitations of critical incident technique when used with mentor and student participants exploring specific mentoring incidents in interviews. They reported difficulties associated with recall of events from practice. The absence of focus on mentor decision making within the wider theoretical literature on nursing decision making initiated a critical review (CASP 2006) to consider appropriate methodologies and data capture methods for the conduct of the study.

Interest in examining nursing decision making has grown in recent years as a result of an increasing emphasis placed on governance and evidence-based practice, as well as the need to understand and support nursing decision making in new areas such as prescribing and advanced practitioner roles (Buckingham & Adams 2000, Dowding & Thompson 2003, Banning 2008, Simmons 2010). Informed mainly by classical decision making theory, studies have examined how nurses make decisions in response to an observed event or simulated patient scenario (Cioffi 2012). From the decision making literature reviewed, qualitative approaches falling into two groups: studies which were descriptive or exploratory in nature (Hedberg & Larsson 2003, Manias et al 2004, Burton & Hope 2005, Cheyne et al 2006, Hancock & Easen 2006, Dowding et al 2009), and studies which made use of 'Think Aloud' technique (Cioffi 1998, Offredy 1998, Simmons et al 2003, Twycross & Powls 2006, Goransson et al 2008, Hoffman et al 2009). In both groups, face to face interviews were a preferred data collection method, with researchers over time favouring introspective methods such as 'Think Aloud' or 'Stimulated Recall' to enhance capture of clinical decisions at interview (Banning 2008, Aitken et al 2011, Cioffi 2012). This trend is also reflected in the wider decision making literature (Fox et al 2011).

'Think Aloud' is a qualitative data collection method where participants are instructed to think aloud, verbalise their 'inner speech', normally while completing an activity; the belief being that this process of verbalisation is capable of providing detailed information of the concurrent reasoning used (Ericsson & Simon 1980, Charters 2003, Banning 2008b, Aitken et al 2011). Widely considered as a legitimate and practicable method for examining decision making processes, the use of the technique has become popular in studies investigating nursing decision making as well as educational research (Charters 2003, Simmons et al 2003, Twycross & Powls 2006, Suto & Greatorax 2008, Pottier et al 2010, Bloxham et al 2011, Tower et al 2012, Forsberg et al 2014). The technique reportedly can increase the number of judgements identified (Aitken et al 2011), but has been criticised on the grounds that concurrent verbalisation may alter cognitive processes and task performance (Charters 2003), albeit disputed (Ericsson & Simon 1993, Aitken et al 2011, Fox et al 2011). Continuous concurrent verbalisations however, can be difficult to undertake at the same time as action; a particular issue in situations where verbal communication is a significant part of the participant's behaviour, as in this study (Lyle 2003, Aitken et al 2011, Fox et al 2011). Also mentors engage with a student over a placement period, develop a relationship, and reach a final decision based on multiple observations. This makes it difficult to pinpoint when over the time period to focus the think aloud technique. Even if employed more immediately after significant events that occur in the placement by scheduling research interviews close to student-mentor progress interviews (preliminary, intermediate and final), the issue of the accuracy of the decision maker's memory and perceptions of the event persists (Charters 2003, Lyle 2003, Aitken et al 2011). An added consideration was the ethics of collecting mentor verbalisations during a placement period as this could affect the final decision taken about an individual student.

The review of 'think aloud' methods identified that interview processes which invite descriptive recall and cognitive probing offered a means to gain a deeper insight into mentor decision making about student competency (Lipshitz et al 2001, Cioffi 2012). As data in this study would be collected retrospectively an approach was required which addressed any limitations in a mentor's ability to remember events and aspects of decision-making. Stimulated Recall (SR) procedures incorporating use of an artefact - Student practice assessment documents [PADs] - were considered capable of facilitating retrospective introspection by a mentor thereby enhancing recall of the assessment decision superior to the recall afforded by simple semi-structured interviews (Gass & Mackey 2000, Lyle 2003, Skovdahl et al 2004, Bidmead & Cowley 2005, Dempsey 2010).

STIMULATED RECALL METHODOLOGY

Stimulated Recall (SR) offers an introspective procedure where participants are played video or audio recordings of their behaviour (an artefact) to stimulate recall of the event and the concurrent thinking occurring during the event (Lyle 2003, Skovdahl et al 2004, Bidmead & Cowley 2005, Dempsey 2010). A methodological approach developed from cognitive psychology by Wagner et al (1977) although first used by Bloom (1953) to examine student recall after a classroom event. SR is considered a qualitative retrospective data collection method, and is widely used in education research as well as healthcare training (Gass & Mackey 2000, Lyle 2003, Bidmead & Cowley 2005, Goulet et al 2007, Salvatori et al 2008, Rowe 2009).). Records of an event - the artefact - such as visual or audio recordings, written charts, or diaries, are given to a participant after an event to prompt recall of what was in their mind during the event itself. This facilitates immediate connection with the cognitive processes employed, and can reduce the interference that can occur when adopting concurrent verbalisations (Busse & Borromeo 2003).

The artefact, containing the record of the participant's 'real world' actions, has the potential to stimulate recall of a situation, interaction and decision more successfully than free recall and capture the complexity, uncertainty and dynamics of the situation (Lyle 2003, Dempsey 2010). This is the case whether an audio-visual recording or a document (e.g. patient charts), as is used in Chart-Stimulated Recall interviews to examine clinical decisions taken with a view to assessing professional competence (Jennett & Affleck 1998, Goulet et al 2007, Salvatori et al 2008). In the SR interview the artefact is examined by the participant, and through researcher-led use of structured recall and probing procedures, participants talk aloud their thinking, decisions and actions described in the artefact (Busse & Borromeo 2003). Similarities with 'think aloud' techniques may be evident in the verbalisations generated and in the shared assumption that it is possible to access internal thoughts and verbalise them. The method offers a more indirect means of eliciting cognitive activity, and has advantages over a standard post event interview (Lyle 2003, Bidmead & Cowley 2005, Dempsey 2010). Through using an artefact in data collection, participants are brought closer to the moment when they made the original decision, and their resulting accounts may therefore more accurately represent their thoughts at the time the artefact was created. This addresses the problem of accurate recollection arising from retrospective data collection techniques (Gass & Mackey 2000, Busse & Borromeo 2003, Lyle 2003, Dempsey 2010). The artefact, acts as 'a sort of memory prosthesis' (p351, Dempsey 2010), directly engaging the participant with their actions, rather than merely asking them to remember. As a result this facilitates discussion of actual actions and decisions taken in contrast with idealised actions that they might or should take (Dempsey 2010).

As a researcher conducting a SR interview, care needs to be taken to ask open-ended questions which do not seek to produce a 'new view' of the event capable of altering the perception of the cognitive processes employed during the event itself (Gass & Mackey 2000, Lyle 2003). Altered perception may also occur if the artefact (eg visual cues in a video) is not presented from the

participant's perspective (Lyle 2003). Another concern is the participant interview accounts may not articulate the thinking that occurred concurrent with the event, but rather represent a conscious censoring and reflection on the event by the participant (Lyle 2003, Dempsey 2010). Nevertheless, with careful design and execution the method is considered valuable in eliciting the reasoning of participants in real world settings, and thus was the method selected for the interview phase of the study (Lyle 2003, Skovdahl et al 2004, Bidmead & Cowley 2005, Dempsey 2010).

STUDY DESIGN

The aim of the overall study was to investigate documented decisions and the practices of mentors forming judgements and reaching decisions concerning the competence of students in practice. Arising from the primary research question, namely *'What factors underpin mentor judgements of student nurse competence in practice and how do mentors reach a decision as to whether to pass or fail a student in practice?'*, an embedded mixed methods design was employed (Creswell & Plano Clark 2011). The overall study design is presented in Figure One. In the first phase of the study PADs relating to a whole cohort of students (n =41) completing a three year undergraduate pre-registration nursing programme were collected following the final exam board. Institutional ethical and research governance approval was obtained from the University and National Health Service provider which employed Mentor participants. Informed consent was obtained from the student and Mentor participants prior to any data collection. Informed by earlier pilot study work, a documentary analysis of the PADs was undertaken to examine mentors' use and conduct of assessment interview processes. Student PADs are the performance record of an individual student where a mentor formally demonstrates their professional accountability for the assessment of student competence (Norman et al 2002). Descriptive analysis of the survey data for the final placement of the programme contributed to the development of a sampling frame for identifying individual final placement mentors (Sign off mentors) to invite to participate in the SR interview

stage of the study. Sign Off mentors (SOMs) were targeted as they are accountable for the ultimate decision regarding a student and to comply with regulatory requirements for the role are required to be experienced mentors (NMC 2008). Twenty mentors were identified in the sampling frame and seventeen agreed to participate. Interviews were conducted four to ten weeks after the final placement interview.

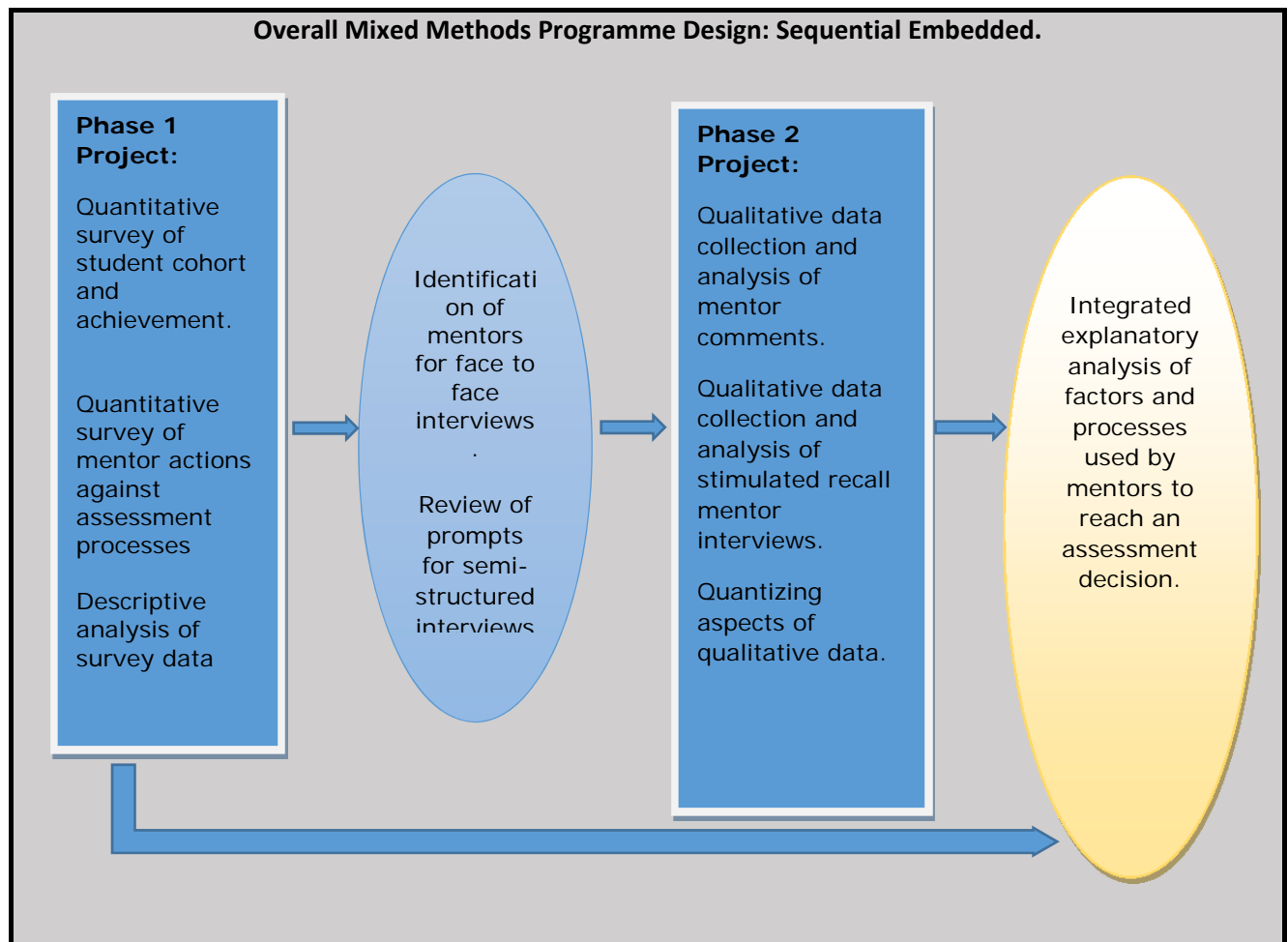


Figure One: Overall Study design

Local level university ethical approval was obtained to examine the content of student PADs for the pilot study. A number of students volunteered their documents for review following a notice posted on the student portal. For the main study full University ethical approval was obtained in accordance with national policy for access to student PADs and to access mentors for interviews in National Health Service (NHS) settings. Research and Development governance approval was also obtained

from each NHS organisation employing mentors that were invited to participate (DH 2011). Individual student consent was not required for use of PADs in the main study, as practice documents become the property of the University on completion of the programme. Consent instead was obtained from the Head of School and approved by the Faculty Research Ethics Committee in line with local policy. However aware that practices elsewhere might require individual student consent, students were made aware that their documents were to be used for the study when they handed in their PADs at the end of the programme and copies of the study information sheet were made available to students. Mentors participating in the SR interviews were informed that the student PAD and mentor comments would form the basis of the interview in the participant information sheet and this was subsequently reinforced verbally during the informed consent process.

THE STIMULATED RECALL INTERVIEW

SR interviews adopt a semi-structured approach with pre-determined prompts and questions used in a flexible manner alongside the artefact to explore the phenomenon under investigation (Lyle 2003). Through an interactive 'stop-start' process of reviewing and discussing the artefact selected, participant and researcher collaborate to develop understanding of the actions and decisions contained within the artefact (Rowe 2009, Dempsey 2010). This process is guided by the content of the artefact and associated interview proforma to enable issues to be explored flexibly and spontaneously, whilst ensuring similar types of data are collected from all participants (Gass & Mackey 2000, Lyle 2003, Skovdahl et al 2004, Bidmead & Cowley 2005).

For the mentor study an interview guide, arising from previous pilot study work and informed by judgement making process theory (Newell et al (2007) was developed and tested to facilitate the SR interviews with the Sign off mentors. The structure of the interview guide was guided by three key processes considered to be involved in any decision making: *'Discovering information'*, *'Acquiring*

and searching through information’, and *‘Combining information’* (p25, Newell et al 2007). An examination of 39 placement decisions documented in student PADs in the pilot study had revealed a range of information of relevance to the investigation of mentor judgements and decision making. This is summarised in Figure Two.

Biographical: Placement area, Placement length, Level of assessment, Outcome of assessment, People identified as contributing to student assessment	Process: Interviews undertaken – preliminary, intermediate and final (Yes/No). Comments provided by mentor at each interview event (Yes/No). Dates of interviews in relation to length of placement (and placement guidance). Development plans and action plans completed by mentor, student, and lecturer. Methods of assessment used e.g. observation, questioning etc
Professional : Mentor qualification, on locally held register and updated	Criteria: Skills and, or learning outcomes identified in interview feedback and student evidence records

Figure Two: Type of information extracted from student PADs in pilot study

Together the processes and topic information of relevance to an understanding of a mentor decision, were combined to produce a topic guide to prompt recall in SR interviews. The final topic content for this guide, following a pilot SR interview with one sign off mentor is presented in Figure Three.

Prior to each SR interview the mentor comments and use of assessment processes for the final placement in the PAD, were reviewed and any key issues warranting further exploration were noted to augment the interview guide. No annotations were made on the artefact (PAD) itself. Individual face-face SR interviews lasting between 40-60 minutes were conducted. The complete, original student PAD was used by the mentor to talk through their engagement with, and decision-making about the student concerned. Interviews were digitally recorded. During the interview, as the mentor worked their way through the artefact, the topic guide was used to prompt discussion and ensure coverage of all areas.

Opening prompt: Could you talk me through how you have worked with this final placement student and at the end of the placement reached a decision on their competence in practice.

Any specific prompts /questions to ask identified from document review pre-interview?

Areas to ensure are covered in discussion:

Discovering information

- **Student documents** how they influence work of mentor and student
- **Proficiencies** – discussion of achievement of these with students, use and review of evidence records?
- **Evidence**- what is gathered about a student's practice and how is this used to form judgements and make a decision?
- **Learning needs/objectives** guiding student work during placement and a structure to provide feedback on and form judgements

Acquiring and searching through information

- What **methods of assessment** are used (direct observation, questioning, nursing documentation completed by student, student evidence in PAD document, feedback from other staff, feedback from patients)
- **Specific areas that judgements are made on:** Professional behaviours and values, Communication skills, a clinical skill (eg medicines management)
- **Student effect** do you alter what you consider and how you gather and use information depending on whether the student performs well, or you have concerns about the student.
- **Relationship(s)** with the student, with Sign off mentor and with the team as a whole?

Combining information

- How are **other members of staff** used to support student, provide feedback and contribute to judgements and overall decision on achievement?
- **Interviews** – opportunities to review progress, provide **feedback** (verbal and/or written) and plan future development – examine time spent meeting, what discussed and documented, where meetings take place, completing documentation at interview or pre-interview?
- **Final decision** how is this made? When? What do you consider when making decision? What are the criteria you use to make a decision? Which pieces of information are the most important? Confidence in decision taken?

Killer Question: Would you have given this student a job in your area at the end of the

Figure 3: Topic Guide to support examination of artefact (student PAD) in mentor SR interview

REFLECTION ON USING STIMULATED RECALL INTERVIEWS

Reviewing the use of Stimulated Recall interviews two areas of challenge were identified that could impact upon the quality of data obtained. The first challenge concerned the skills of the interviewer (SB) when probing and prompting to stimulate recall of judgements formed to support the overall decision reached. Inappropriate probing could result in conscious censoring of the recall. The consequence producing a 'sanitised' account or a new view of events, constructed through a combination of hindsight and reflection (Gass & Mackey 2000, Lyle 2003). Mindful of this, when reviewing the interview transcripts, particular attention was paid to comments when mentors indicated that they had not considered the issue before. These were then re-examined against the documented comments in the PAD for confirmatory support or inconsistencies.

A second challenge was the extent to which retrospective data collection had captured the concurrent reasoning of the mentors. An acknowledged threat to the validity of data gathered in SR is the time delay between the event and the process of recall (Gass & Mackey 2000), though this may be mediated in interviews using Chart Stimulated Recall (Jennett & Affleck 1998, Lyle 2003). Ethical constraints prevented immediate data collection until after the final interview decision had been ratified by the relevant examination board and thus could be considered a limitation of the study. In order to mitigate the effect that this delay may have had, the full PAD in its original format, rather than a copied, abridged or annotated document was used in the SR interview. This provided the mentor with their own records and the student evidence that they had seen previously. During the interviews the mentors talked whilst working their way through the PAD, phrases used by sign off mentors such as *'looking at this I remember'*, provided reassurance that recall of actual events and thoughts had been stimulated.

The main benefits of the SR interview method were the quality of recall obtained and effects on the participant-researcher relationship. Combined these strengthen inferences drawn from the

interview data. Mentors easily recalled the student and practice assessment decision taken. Conversations were fluent, full of detail, and numerous illustrations from practice were provided by mentors to support their comments and the decisions evidenced in the student document. Reviewing comments recorded in the student's PAD, appeared to produce a focused discussion led by the mentor concerning their decision processes than may have been achieved using just a post event interview (Bidmead & Cowley 2005). Other researchers have noted similar benefits including increased recall and ability to articulate rationale underpinning decisions and choices made (Bidmead & Cowley 2005, Salvatori et al 2008, Dempsey 2010). Using an artefact to which the mentor had made a contribution, placed the mentor's perspective and actions central to the investigation and limited discussion directed by the research agenda. This provided an opportunity for an acknowledgment of joint experience in assessing students in practice. It also minimised the need for the mentor to explain aspects of mentoring and student assessment that might lead to reflection on their practice. The approach enabled a co-construction to develop of a shared understanding of the assessment decision reached. Examining decisions from an insider's perspective gave ownership to the mentor and valued their decision-making, provided an opportunity to raise their issues and provided a strategy to reduce bias or 'hubris' that might result from investigating an issue that the interviewer (SB) regularly encountered at work (Lyle 2003, Bidmead & Cowley 2005, Rowe 2009, Cassidy 2013).

CONCLUSION

This paper has described the use of the student PAD as an artefact to stimulate recall of cognitive processes underpinning mentor decisions regarding student nurse competence. An examination of incorporating a Stimulated Recall approach as part of semi-structured interviewing with mentors, illustrates how artefact use can be a valuable method for examining decision-making in a naturalistic context. By reviewing an artefact, in this instance PADs, participants were brought closer to the original moments or events that informed decision-making. Documented comments provided prompts which effectively overcame difficulties that might be associated with memory and recall in retrospective data collection, and appeared to facilitate insight into the original thought processes. The method also provided the opportunity to discuss inconsistencies between mentor thoughts, actions and documented comments. Furthermore, reviewing the mentor comments created a point of contact between the mentor and researcher and conferred a sense of ownership and value of the mentor's contribution to student assessment and the research. Stimulated recall approaches may be of use in helping novice mentors learn from more experienced colleagues to develop decision making skills in student assessment and as training materials for mentor preparation.

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