

# An exploration of first-year medical students' experiences of assessment in a renewed medical programme

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**Background.** Formative assessment approaches in the form of multiple and varied assessment opportunities have been shown to positively influence and promote self-regulated learning.

**Objective.** This research aims to explore how first-year medical students experienced ongoing, multiple, varied, low-stakes (no- or low-grade) assessments during a newly developed introductory module implemented as part of a renewed curriculum process.

**Method.** A qualitative and exploratory research design drawing on an interpretivist paradigm was used. Twenty-seven purposively sampled first-year students participated in four focus group discussions where they discussed their experiences of assessment. The discussions were recorded and transcribed. Transcriptions were thematically analysed.

**Results.** Three themes were identified, reflecting a range of experiences pertaining to the assessment approach, namely: (i) students experienced several emotions; (ii) students underwent a series of adjustments and changes in response to the assessment requirements; and (iii) students' experiences are viewed as journeys as they transitioned into higher education. Assessment literacy and assessment-specific factors were key contributors to shaping student experiences.

**Conclusions.** The study revealed that the development of self-regulatory skills and assessment literacy is necessary as students transition from secondary education into an integrated medical curriculum, and that the assessment design and tasks are important for student self-regulation. The findings support literature on the role of formative assessment and highlight how assessment literacy can enable self-regulated learning and smoother transitions into higher education.

**Keywords:** formative assessment, self-regulated learning, assessment literacy, student transitions, low-stakes assessment

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## Practice points

- Assessment can positively facilitate students' transition from secondary to tertiary education.
- Continuous low-stakes assessment fosters development of increased decision-making, self-awareness and responsibility, and self-regulated learning as students transition from secondary to tertiary education.
- Internal and external assessment-related factors drive students' emotional adjustment and growth transitions.
- Students' assessment literacy influences their experiences and assessment and drives self-regulated learning.

Assessment is an integral part of the academic journey for students, enabling them to progress from being novices to becoming capable practitioners.<sup>[1,2]</sup> Assessment *for* learning in the form of formative assessment promotes self-regulation. Self-regulated learning (SRL) occurs when the learning goals students set are attained through employing cognitive, affective, and behavioural practices and activities that move them closer to those goals.<sup>[3]</sup> According to Zimmerman,<sup>[4]</sup> SRL encompasses three cyclical phases: (i) analysing tasks, setting goals and planning behaviours (planning); (ii) monitoring and controlling behaviours, emotions and motivations (performance); and (iii) self-reflection informed by feedback (evaluation). These occur within four related areas: (i) cognition; (ii) motivation/affect; (iii) behaviour; and (iv) context. Self-regulated students learn to execute

control over their feelings and thoughts, actively engage in the learning process, take responsibility for their academic journey, and adapt their learning strategies.<sup>[5,6]</sup> When setting learning goals, students develop plans to attain measurable and achievable learning goals, remaining cognisant of the required time and resource availability. Through actively employing metacognitive processes, they monitor and reflect on their own thinking and learning to better understand and adjust their learning strategies. Intrinsic motivation is an important factor driving their pursuit of knowledge for growth and personal satisfaction.<sup>[7]</sup>

The development of SRL is also important as students transition from secondary to tertiary education and start to develop their identities as higher education learners.<sup>[8-11]</sup> Gale and Parker,<sup>[9]</sup> in their extensive work, explore student movements into higher education and categorise these transitions according to three 'fluid' phases: induction, development and becoming. Induction refers to transition that takes place over a distinct period of time where students move from one institution or disciplinary context into another. Development refers to trajectories of change where students mature from one identity to another. Becoming refers to multiple transitions and experiences that occur over students' lifetime. Importantly, during induction the responsibility for facilitating the transition lies with the institution and with the student (e.g. engagement with staff, their own learning and their commitment).<sup>[9,12]</sup> In contrast, developmental transitions are internally driven, lie more within the control of the student, and can span

multiple modules and years as students transition through programmes. They highlight the importance of researchers and practitioners identifying their conceptualisations of transition when thinking about and designing activities to support student transition. The body of literature on the link between assessment and transition with the development of SRL has grown in recent years.<sup>[13]</sup> Noyens *et al.*<sup>[14]</sup> highlighted features of students' experiences and expectations, their adjustments, competency development, and how they change their learning strategies over time. Assessment during these transitional phases can foster early professional identity development, increase decision-making, promote self-awareness and taking responsibility,<sup>[14]</sup> and support the development of teamwork skills.<sup>[15]</sup> Student transitions into educational contexts where different assessment strategies are used are also influenced by assessment literacy, which refers to the students' understanding of assessment theories and approaches that determine educational choices.<sup>[16-18]</sup> From the student's perspective, this requires an understanding of the purpose and processes of assessments and how this informs learning.<sup>[19]</sup> Evans<sup>[20]</sup> identified assessment literacy as an integral factor for the development of student SRL in that students should understand what is required of them in terms of assessment. She proposes that to promote student assessment literacy, assessment designers must ensure that there are shared expectations and understandings of what is required in terms of assessment; that students and staff understand how the various components of assessment relate to each other; that they understand the roles that they as students play in assessment; and what is required of the discipline. These different perspectives on transitions, SRL and the need for assessment literacy provide important framing for the work on assessment that is described in this paper.

In South Africa (SA), where the current research was conducted, medical students typically enter university directly from secondary school after having completed a once-off national exit examination during the prior year.<sup>[21]</sup> Their final years of schooling are therefore geared towards preparing for this examination. Similarly, medical school first-year programmes are typically primarily science-based, and progress to the next semester or year is contingent upon passing more traditional forms of examinations (e.g. theoretical and practical tests). Of note, some students enter from other graduate programmes or from formal employment.<sup>[22]</sup> Recently, Stellenbosch University initiated a process of renewing the existing Bachelor of Medicine and Bachelor of Surgery (MB ChB) medical programme curriculum. The introductory 18-week module of the renewed curriculum, called Being and Becoming in Health Care (BBHC), represented a shift from a traditional disciplinary teaching, learning and assessment approach to the implementation of a more integrated curriculum built on four central pillars (i.e. self, patient, community, and health systems) to serve as golden threads across the duration of the 6-year MB ChB programme. Using a blended-learning approach, students were taught using several modalities: in-class, online learning materials, in simulation laboratories, and at local health facilities. Numerous ongoing and varied assessments were embedded within the curriculum, many of which had either no grades or low grades assigned to them, given that the intention was to use formative assessment *for* learning. This study sought to better understand how students experienced the assessment system adopted in the first module of the renewed curriculum and was guided by the following research question: How do first-year medical students experience ongoing, multiple and varied assessment in a single, namely, the introductory BBHC module?

## Methods

A qualitative exploratory study was conducted. Drawing on Guba,<sup>[23]</sup> an interpretivist paradigm to gain an understanding of the student experience of assessments within the BBHC module was employed. The study was conducted in the Faculty of Medicine and Health Sciences. First-year medical students were purposively recruited via email on the basis that they had recently completed the newly developed module as the first cohort of students in the renewed MB ChB programme (January 2022). They were the first recipients of the newly designed assessment plan. Twenty-seven students (of 290 students) volunteered and gave written informed consent for research participation. The group comprised a mix of students who had entered university directly from high school and those who had existing undergraduate degrees. Focus group discussions (FGDs) were conducted by the primary author. Potential power imbalances were mitigated by emphasising voluntary participation, confidentiality, and the absence of any link to academic assessment. Established qualitative strategies such as collaboratively setting ground rules, encouraging quieter participants, and managing dominant voices were consistently employed to ensure inclusivity and openness. These measures align with best practice for maintaining ethical rigour and managing insider-researcher dynamics in qualitative research.<sup>[24,25]</sup> A semi-structured FGD guide aligned with the objectives of the study was developed and employed to direct the data collection process. Data were collected over a 1-month period, through four FGDs (ranging from 6 to 7 participants per group, identified as FGDs A - D). The duration of the discussions was between 60 and 90 minutes. At the start of the focus group, each student was given a sheet of paper and coloured markers and was asked to draw a representation of their understanding of assessment. Visual methods are useful for expressing what cannot easily be said in words, allowing researchers to elicit multiple perspectives, particularly when engaging with young people.<sup>[26-28]</sup> The drawings were merely used as a prompt to initiate the discussion with the students and were not included in the analysis. Discussions were audio recorded (with permission from the students), transcribed and reviewed in conjunction with the field notes. All data were managed in adherence with ethical and institutional research requirements. Using an iterative process the transcripts were thematically analysed according to the six steps proposed by Braun and Clarke.<sup>[29]</sup>

The research study was conducted in compliance with national and international ethical guidelines and principles. Ethical approval was provided by the Health Research Ethics Committee at Stellenbosch University (ref. no. S22/03/036).

## Results

The findings are presented in three overarching themes that build on one another to illustrate students' experiences of assessment. Theme 1 (Emotions in response to assessment) captures the range of emotional reactions students described, from confusion and anxiety to acceptance and appreciation. Theme 2 (Cognitive and behavioural adaptation) highlights the ways in which students adjusted their study habits, coping mechanisms, and approaches to learning as they navigated the demands of the assessment system. Theme 3 (The journey of learning and growth) then explores how these emotional and behavioural responses developed into a broader process of learning, reflection, and professional growth over time. Within each theme, subthemes are presented to distinguish between contrasting and complementary experiences, providing a nuanced account of students' perspectives.

## Theme 1. Emotions in response to assessment

This theme captures the range of emotions students experienced in relation to the new assessment approach, from initial confusion and anxiety to later acceptance and appreciation.

### Negative emotions: confusion, anxiety, and stress

Students experienced a range of emotions, which changed in type and intensity over time, and in response to various assessment-specific factors (e.g. the type, structure and timing thereof). Initially, they described feelings of confusion and of feeling overwhelmed, particularly early in the module, related to an initial lack of understanding and experience of the assessment approach.

*I was a bit confused, I think, with the information overload [regarding the assessment approach]. Like there were different things that we were doing at the same time... (FGD A)*

Tests and the grades/weighting attached to the assessments were a source of anxiety and affected their motivation. Higher-weighted, and for grades, assessments caused anxiety and stress. If, however, these were not appropriately weighted (high weighting for little effort) or there were too few higher-stakes assessments, students felt demotivated. Other types of assessment also evoked emotional responses. For some, reflective exercise assessments caused anxiety as they were unaccustomed to speaking about themselves. With group work, some experienced interacting with students they did not know as stressful. Some felt demotivated, frustrated, excluded, and unheard when there were poor group dynamics.

*...when it [assessment stakes] matters so little [in terms of grades]... it definitely demotivates you a lot, because you know you can get by [pass] with so little. (FGD B)*

*I think the group assignment was where we had to apply all the small little skills that we learnt in BBHC. For me, it started out as a nightmare. (FGD A)*

Factors pertaining to the lecturers, such as their teaching in a didactic manner, or not explaining concepts, or providing large volumes of self-study content, contributed to students feeling stressed and overwhelmed about the assessment. The science-based content was experienced as being too large to manage, and the pace of delivery too fast, which decreased their confidence, as well as retention and understanding thereof. They requested smaller, more frequent tests to help with learning.

*Like for example myself, if I have to go through 49 slides without listening to anything, I just get like overwhelmed, and I just don't understand anything. (FGD C)*

*So I think anxiety really comes in just that you're not going to finish everything, and the things that you did learn, you might not even remember it, because there's just so much content. (FGD B)*

Students also reported anxiety and guilt when they did not have to prepare for an assessment by studying in the way that they were accustomed to (e.g. cramming, sleepless nights).

*In BBHC I felt stressed because it was less stressed than I thought it was going to be [laughter]. (FGD B)*

Reasons for these emotional responses were numerous and strongly rooted in differences between their expectations and experiences of assessment and learning in secondary school compared with university. They reflected on

how, as high school students, they were accustomed to highly pressurised formal end-of-year summative examination formats. Learning was directed by their teachers and content was drilled into them.

*Coming into this with the new curriculum, I was hesitant, because it is [traditional examination style] that you're used to. That's the path you think you're going to walk when you come to university. (FGD B)*

### Positive emotions: acceptance and appreciation

Interestingly, students who had completed other degree programmes or who previously held formal employment, were less distressed and anxious, and embraced the module faster, stating that they had not functioned well in traditional-examination-based higher education programmes, and preferred this form of assessment. They appreciated that the assessment format allowed them time to learn in different ways, at their own pace, which allowed them to retain the content.

*My experience was different. I enjoyed everything so far, since ... day one... And I'd have [assessment] experience in all my years ... So [previous bachelor's and master's degrees] was a lot of assessment, assessment, assessment, study this, it's done, next, and you forget. (FGD C)*

## Theme 2: Cognitive and behavioural adaptation

While the previous theme highlighted emotional responses, this theme focuses on how students adapted cognitively and behaviourally as they navigated the assessment demands. It illustrates the strategies they developed, the adjustments they made to their study habits and coping mechanisms, and the ways in which they began to take greater responsibility for their learning.

### Self-awareness and adjustments

Student encounters with and navigation of the new assessment programme within the higher education context prompted several cognitive and behavioural adjustments. These adjustments centred on developing self-awareness and individual responsibility rather than only responding emotionally to challenges.

*But I think for me, what was most difficult with BBHC was more of self-awareness, and I think I was not self-aware... now I need to write about myself, and I struggle with some parts of self-awareness. (FGD A)*

*... most of the things start from your time management skills, your discipline, and be able to manage school, your life outside, friends, and also sleeping time ... you need to be aware of the assessments that you need to do. (FGD A)*

The nature of the assessment approach required many students to reflect on their learning strategies and coping mechanisms, and to consciously re-evaluate how they studied. They described making decisions about how to motivate themselves, re-thinking established study habits, and developing new approaches better suited to the demands of the module. Having been taught study methods as part of the course was said to be helpful, as students could apply, monitor, and evaluate these approaches in practice. For many, what had worked in secondary education was no longer sufficient, prompting a deliberate shift in strategies.

*Now that we're in university ... because at university, there are so many resources you have available to you, and now it's up to you to decide okay, I'm going to make use of this, this and this resource to study, rather than like back in school, it was like okay, the teacher always used this, study from these pages or whatever, in the textbook. (FGD B)*

*I discovered a lot about myself, like the study methods and everything ... now, the truth is, some of my friends, they go to lecture halls, libraries to study, and I feel comfortable in like studying in my own room ... when I remember like back in BBHC, I learnt that we all have different styles of learning and everything, and I feel like that comforts me. (FGD D)*

These reflections illustrate how students actively adjusted their study strategies, recognised the limitations of high-school approaches, and began developing coping mechanisms aligned with their own learning preferences and the demands of the new assessment system.

### Challenges and resistance

Interestingly, students often referred to being 'forced' to continuously study, implying that this form of assessment did not come naturally to them, and that they grappled with it in terms of their intrinsic motivation to study. They also felt 'forced' to 'think', to actively engage with the entire module and develop concrete plans and ways to engage with the content and the learning process more effectively.

*I was forced to use my brain a lot in BBHC, think ... So it's a lot of independent work and groupwork, and self-management and thinking, without just regurgitating work, and write and think about it. (FGD C)*

Over time, most students described how they started to take personal responsibility for preparing for and completing assessments and frequently revisited their plans. This included adjusting existing, or setting new, learning goals and then developing specific strategies to respond to the assessment requirements and task demands, including the online work. These included thinking about and adjusting external (e.g. rearrange work area, time management, finding new places to work) and internal strategies (e.g. consider adopting different approaches to studying, speaking to fellow students about how they studied). They realised that not adjusting to the requirements of the module would negatively affect their learning. They also requested more mini-projects to help with learning, and to assist them to become accustomed to working with their peers, learn presentation skills, and prepare them for the end-of-module group presentation.

*And time management, not so much time management, but change. I don't deal well with change. So that's also again something I reflect on more personally, but it's also each time, because each time there is something new that's maybe changed in my life. (FGD B)*

*I realised a lot in BBHC, we did a lot of online work, which is something I wasn't used to... So, that was quite a struggle, and then you learn, you have to do a lot of self-discipline. (FGD A)*

The adjustment to the assessment approach was not easy for all students. Some developed negative behaviours, such as procrastination, or became demotivated and anxious, as they felt unchallenged by the assessments, since the pace was too slow or the consequences (i.e. grades) too low. They perceived the module as having had no assessment in spite of the fact that the assessment approach was explained to them throughout the module.

*I don't like the lack of assessment in BBHC. I remember we had four weeks to do a workbook... I felt like, at some extent, I could have just gone home for that month... (FGD C)*

### Adaptation among experienced students

Those students who had previously completed another degree, worked or who had been exposed to similar teaching, learning, and assessment approaches adjusted more easily. Many welcomed the shift from single assessment, high-stakes, examination-based assessments.

*I came from degrees that were quite like massive assessment based. So it felt like each task was like a drop in this massive ocean of six years ahead of you, which is a weird adjustment... (FGD C)*

### Theme 3: The journey of learning and growth

Building on the emotional responses and the cognitive and behavioural adaptations students made, this theme explores how their experiences unfolded into a broader journey of learning, development, and professional growth.

#### Growth and appreciation of assessment

While there was an initial period of adjustment for many, students reflected that as they progressed through the BBHC module they experienced changes in their perspectives of the assessment approach and the emotions experienced. As time passed, there was a general acceptance and appreciation for the new assessment approach, and they saw its value.

*You had an understanding, it was wrong, but now you're learning something new. It also, I think, it allowed us to grow, and to – like he said, he matured into someone different. I think as well, I became a different person. (FGD A)*

The students also reflected on their motivations for learning: good grades, looking good, and mastery. Individual student motivational factors were linked to wanting good grades. For others, their learning was influenced by their personal interests. For example, those who were more interested in science-based topics retained information linked to these disciplines, whereas those who were more interested in primary health care or public health enjoyed those subjects more and put more effort into learning the relevant content. Many students also reflected on their motivations for becoming doctors, acknowledging that their choice to learn will enable them to become competent and knowledgeable doctors in the future.

*... I think ... learning is motivated by what I want to be at the end of like even six years... (FGD D)*

#### Feedback as motivator and barrier

Different forms of feedback were mentioned in relation to learning and motivation. Grades, class discussions, and quizzes (at the start of lectures and in general) motivated students to assess their knowledge gaps, enabled them to assess attainment of learning goals (performance and success), and were described by one student as an opportunity for them to measure their progress. When the students received no feedback on *for-grades* written assessments, they felt demotivated.

*So on the SCORM packages for example, they would say you've got four attempts, and 80% is the fail; initially I started off and I was like oh my word, I have to get like about 80%. But then it was for myself, I am actually testing myself to see how much I know, I didn't need those four attempts. I just needed that one attempt, because I would get the 100%, because I studied in a different way. (FGD A)*

(SCORM = shareable content object reference model, an online tool that allows for a number of files containing different content to be viewed in sequence)

*If we could see the past paper, even if they just go through it in class with us ... Even that, just so we can see what we actually understood and what we didn't understand. (FGD B)*

### Perceptions of 'real medicine'

However, some students were dissatisfied with the content and focus, and therefore merely endured it, owing to a primarily non-clinical focus and social science orientation which did not align with their motivation to study medicine. These students were less, or not at all, motivated to engage in the assessments linked to subjects not considered to be 'science', since the topic did not affirm their reasons for studying medicine.

*...when we got to the end of [BBHC], we were just walking out and heard people saying, well, now the real medicine begins, now the real work begins. (FGD B)*

### Developing assessment literacy

Students demonstrated a good understanding of the assessment approach. They were familiar with related words and phrases, speaking what can be described as the *language of assessment*, and were able to correctly describe the concept and value. They easily spoke of specific teaching and learning approaches, 'weighting of assessments', and 'stakes'. They attributed this understanding to the early, constant, clear, and detailed communication by faculty of the purpose and nature of the assessment approach, and commended staff accordingly. The students knew that the intention was to promote learning, and that, even if one failed, there would be other opportunities to demonstrate improvement. Understanding the assessment approach helped the students to realise that they had to adopt a different approach to studying.

*I just want to emphasise that they really, really explained to us well that it's a continuous assessment... if you do bad in one... assessment, there will always be another opportunity to make up for that... (FGD B)*

*So I think a lot of the emphasis, especially in the beginning... just complete the work ... That emphasis on completion, and not so much study, rote learn, regurgitate, copy and paste that information ... Like leaving that aspect and focussing more on okay, complete this, so you can actually learn... (FGD B)*

### Group work: challenges and preparation for practice

Group work as part of the assessment process was found to be very challenging, but also useful to assist with applying what the students had learned during the module, to engage with the community and health facility staff, and to meet new people. Group work also enabled them to navigate the difficulties of working with larger numbers of students whom they did not know well. Many students were challenged at a personal level and stated that they had to learn to apply and test the intrapersonal (e.g. coping mechanisms) and interpersonal skills (e.g. conflict resolution) they had learned about earlier on in the module. However, their initial challenges provided them with an opportunity to reflect on who they were and how they should behave within a work setting, noting that they realised that this was preparing them for future practice, where they will have to work in teams. They requested smaller team sizes.

*... big personalities that were dominating. So there was like a lot of big personalities that were dominating. So because maybe she speaks a bit louder than I do, or she brings her point across better... (FGD A)*

## Discussion

This study aimed to explore first-year undergraduate medical students' experiences of assessment within an introductory first-semester module. The module was developed as part of an integrated undergraduate medical curriculum renewal process, and represented a shift from a traditional, disciplinary teaching and learning approach where subjects were taught in modules and assessments were mainly in the form of a few end-of-module examinations. Of relevance to this study, the design of the module's assessment approach was premised on the understanding that assessment should be for learning,<sup>[30]</sup> and that multiple and varied formats of (formative) assessments, as opposed to individual (single) assessment methods, were more likely to drive (i.e. to be for) learning.<sup>[31]</sup>

Drawing on the theoretical lens of SRL,<sup>[3,32]</sup> the findings reveal that for most students their experiences can be viewed as a *journey* as they transitioned into higher education and progressed through the module over a specific period of time (*induction*).<sup>[9]</sup> The complex process of transitioning into higher education from secondary school, as well as the role of assessment to positively facilitate this journey for students, has been described in the literature. Nicholson<sup>[33]</sup> describes this transition according to four longitudinal, yet cyclical phases of preparation (*expectations and motive*), encounter (*changes and perceptions*; first few weeks usually), adjustment (*assimilation and accommodation*) and stabilisation (*relating and performing*). In this study students' transition experiences closely resemble what has been described. Of importance to this work, assessment fosters the development of increased decision-making, self-awareness and responsibility,<sup>[11]</sup> and promotes the emergence of self-regulation as the students' transition.<sup>[13]</sup>

The students' journeys were marked by emotional, adjustment and growth transitions in response to a range of internally (e.g. their individual expectations and previous assessment experiences) and externally (e.g. specific assessment-related) driven factors. More specifically, their initial encounter with the concept of a formative assessment system challenged their preconceived expectations and understandings of what assessment within medical school should be; and this initiated a range of emotions such as confusion and anxiety. They were also challenged by specific assessment design-related factors such as the focus of the assessment (e.g. topic), the type (e.g. tests, group work), whether the assessments were graded, and the volume and pace at which the topic(s) under assessment were taught. In this study, students who had completed previous degrees or had prior work experience appeared to adapt more readily to the assessment approach. This suggests that maturity and prior exposure to diverse academic or professional contexts may enhance resilience and openness to novel forms of assessment. These findings align with SA and international evidence showing that mature or experienced students are more likely to draw on adaptive coping strategies and deep learning approaches when navigating new academic demands.<sup>[34-36]</sup>

Beyond their initial emotional responses, students described making adjustments to their thought processes and behaviours, such as rethinking study strategies, developing time management approaches, and reconsidering their coping mechanisms. These accounts suggest early movement towards

self-regulatory processes, as students began to reflect on their learning and modify their approaches over time. These findings align with the work of Noyens *et al.*<sup>[14]</sup> which focuses on the role of students' experiences and expectations, their adjustments, competency development, and how they change their learning strategies during similar transitional journeys. As students faced educational and other transitional-related challenges, they employed various strategies to address these, including the employment of emotional and other self-regulation skills.<sup>[14,38,38]</sup>

These adjustment processes can be viewed in relation to Zimmerman's<sup>[4]</sup> three-phased cycle of SRL. For example, students engaged in self-reflection (*evaluation*) when they recognised that prior study strategies were insufficient, described setting new learning goals and strategies (*planning*), and reported implementing and monitoring these strategies in practice (*performance*). Their initial encounter with the demands of the assessment approach challenged them in terms of their cognition, motivation and behaviours. This triggered a process of self-reflection (*evaluation*), resulting in raised self-awareness. They thought through their learning goals and strategies (*planning*), and developed, executed and monitored their plans (*performance*). This was evidenced by students' attempts to better manage their time, to rethink how they should learn, and to apply what they had learned in respect of study methods. *Motivation*, a component of the *performance* phase of Zimmerman's cycle was also a key feature of the students' assessment experiences. The metacognitive process of monitoring and reflecting on their own thinking strengthened their understanding of, and adjustments to, their learning strategies. They were intrinsically (e.g. wanted to be a good doctor or master the content), and extrinsically (e.g. wanting to be seen to perform well) motivated, both of which are important components of SRL and for transitioning into higher education.<sup>[39,40]</sup>

Another important finding in this study has been the influence of assessment literacy on students' experiences of assessment. Students described valuing clear and repeated communication about assessment expectations and success criteria, and many demonstrated familiarity with assessment terminology when reflecting on their experiences. This suggests that communication supported the development of assessment literacy, which in turn contributed to self-regulatory processes. These findings resonate with the literature on the role of assessment literacy in driving SRL<sup>[19,41]</sup> and align with the assessment literacy component of Evans *et al.*'s model,<sup>[16]</sup> which promotes intentionally designing curricula to advance assessment literacy within a formative assessment orientation.

In terms of the use of formative assessment for learning and development of SRL in this module, the findings provide insights into the assessment-specific elements that drove individual student responses towards SRL. The *ongoing* and *multiple* (repetitive) design compelled students to engage with the content as they often describe being 'forced' to confront aspects of the assessments.<sup>[30,31]</sup> Incorporation of different assessment formats (*varied*) challenged them to learn in different ways and catered for the range of students' learning preferences.<sup>[42]</sup> Assigning no or low *grades* had an influence on their emotions, behaviours and motivations.<sup>[43]</sup> For example, tests conducted for marks evoked anxiety. When they experienced that the pace of teaching was too fast and the volume of what was to be assessed was too large, students crammed and experienced high levels of anxiety. The formative nature of the assessment design also meant that students often received immediate feedback when completing several assessments and this provided information on how they were progressing.<sup>[44,45]</sup> It is also noteworthy that in this study students requested more quizzes in

preparation for assessments *for* marks and even requested that more such assessments be done.

Transitions and assessments are, however, not experienced in the same way by all students.<sup>[9]</sup> In this study, some students did not experience the assessment positively; a few felt unchallenged by the pace, while others expressed guilt at not feeling stressed or pressured to study constantly. For some, these reactions appeared to contribute to demotivation. Evans *et al.*<sup>[16]</sup> caution that those who design assessments should ensure that assessments challenge students both cognitively and metacognitively to sustain engagement, and that mechanisms are in place to identify and support students who are not progressing. This will require that faculty actively incorporate evaluation strategies to identify students who are not progressing so that they can appropriately intervene. It may also be important to recognise that adaptability to innovative assessment formats is not uniform across the student body. Students with prior qualifications or professional experience in this study demonstrated greater adaptability, likely reflecting maturity, developed self-regulation skills, and resilience.

## Limitations

This study's findings may not be applicable to other contexts where students do not directly transition into health education from secondary education, where first-year medical programmes are not integrated, where flexible assessment approaches are not used, or in later years of study within clinical contexts. Specific learning outcomes were not explored and therefore it is not possible to make conclusions regarding the attainment thereof. The study sample was small and represented the experiences of those who volunteered to participate. Detailed information on which degrees students with prior university experience had, was not collected and would have added to the analysis.

## Conclusion

This qualitative study explored first-year medical students' experiences of assessment for learning in an introductory first-semester module which was developed as part of an integrated medical curriculum renewal process. The module design was based on the principles of formative assessment where multiple and varied assessment tasks, some for no marks and others for low marks, as opposed to fewer, single, large, written examinations, formed the basis of the assessment approach. The analysis revealed several findings that align with existing literature on the role and importance of formative assessment for learning as experienced by the students, including the value of formative assessments to promote SRL and the role of assessment literacy aspects to enhance SRL. Future research can focus on how Evans's<sup>[20]</sup> EAT framework can be applied for maximisation of student assessment literacy with additional research request to better understand which aspects of assessment drive SRL. Further, longitudinal research on assessment experience that explores students' assessment experiences should be considered.

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commented on the study proposal, provided conceptual guidance throughout the study, reviewed and edited the manuscript. All authors read and approved the final manuscript.

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