ORIGINAL ARTICLE

Navigating soft skills: Qualitative study exploring undergraduates' perspectives on an e- portfolio pilot at Alexandria Faculty of Medicine

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Introduction	Soft skills are becoming increasingly important in the medical curriculum to improve patient care, professional practice and physician well-being. E-portfolios serve as a teaching and assessment tool supporting the development of soft and reflective skills. An elective course covering the key soft skills of leadership, communication and conflict management was introduced at the Alexandria Faculty of Medicine, and a paper-based e-portfolio was piloted as an assessment tool. This study explored the learning experiences of final year medical students following participation in the elective course..
Methods	This qualitative study, grounded in social constructivism, used focus group discussions with eight cohorts of final-year medical students during the 2021/2022 and 2022/2023 academic years. After completing elective course, students participated in online focus groups. Sessions were recorded, transcribed verbatim and inductively analyzed using Atlas.ti software to identify emerging themes..
Results	Eight focus groups were conducted with 92 final year medical students from eight elective cohorts, representing 56 % of those invited. The inductive analysis revealed four key themes: the perceived value of soft skills and their importance in clinical practice; the assessment of soft skills, with concerns about the subjectivity; the language of the e-portfolio with reported difficulties in written reflections; and the digital format of the e-portfolio, with mixed feedback on usability..
Conclusions	Final year students value the integration of soft skills into the curriculum and recognize the role of the e-portfolio for their assessment. E-portfolios can be effectively implemented in resource-limited settings where expensive software solutions may be unfeasible.
Keywords	Competency based medical education, e- portfolio, qualitative research, soft skills, undergraduate medical education.

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INTRODUCTION

The term "soft skills" is used to describe the ability to communicate effectively, collaborate with others and possess a range of personality traits that influence interactions, e.g. communication, leadership, conflict management and time management[1]. This set of abilities is dynamic and encompasses a range of cognitive, metacognitive, interpersonal, intellectual, practical skills and ethical values[2]. For healthcare professionals in general and physicians in particular, soft skills are increasingly being recognised as complementary to the "hard clinical skills", as they are required to ensure the delivery of high-quality patient care and the improvement of overall

healthcare outcomes[3 - 5]. The paradigm shift of medical curricula from traditional to competency-based education was driven by a desire to better align medical education with societal healthcare needs and to ensure that graduates were truly prepared for clinical practice[6]. This shift in focus highlights the understanding that although medical competence remains a fundamental aspect of healthcare, the integration of soft skills is equally crucial for fostering effective interactions with patients, optimising team dynamics and improving healthcare delivery as a whole[7].

The current literature suggests a correlation between the development of soft skills and academic achievement, the improvement of curricular outcomes, social skills and a positive influence of communication skills on clinical performance, critical thinking and problem-solving abilities[4, 8]. Furthermore, it was proposed that the integration of soft skills into the medical education curriculum could have a positive impact on the quality of interactions with patients, leading to the development of stronger relationships and, consequently, improved patient trust and outcomes[8, 9]. Soft skills are also beneficial for physicians' well-being, enhancing their ability to adapt and respond constructively to professional challenges and everyday clinical situations[2]. Consequently, the teaching of non-technical or soft skills has become a necessity for healthcare professionals, particularly given their characterisation as "skills" that can be learned and developed and combined to achieve complex outcomes and competencies[2].

Nevertheless, as is the case in medical education globally, soft skills are frequently under-taught in curricula despite being within the domain of professionalism, which is a fundamental aspect in the majority of competency frameworks globally due to several reasons.

Firstly, undergraduate medical curricula are already overcrowded and predominantly focus on the development of technical and clinical skills, with comparatively less attention given to the teaching of soft skills in the formal curriculum[10]. Secondly, the complex, multi-dimensional nature of professionalism as a social notion is reflected in the literature from a largely Western (Anglo-Saxon) perspective, which neglects the context, geographical location and culture as important considerations[11, 12]. Another reason is the reliance on more passive, lecture-based transfer of soft skills, which is particularly limiting when the learning goals involve changing how students interact with their patients[13]. Without a structured program of soft skills training, medical students are expected to learn soft skills largely through informal opportunistic learning, such as observation of peers or seniors or through trial and error, guided by their own intuition and common sense, influenced by the socio-cultural

environment[10, 14, 15]. This has led to the observation that some physicians are proficient in their role as clinicians but sometimes challenged in their communication skills and leadership roles, which could have an impact on patient morbidity and mortality[5, 15].

Soft skills training is either integrated into the professionalism curriculum or, more frequently, provided as a standalone course[16]. The soft skills most frequently taught in health professions education are communication, teamwork, interpersonal/social skills, problem-solving, leadership and information and technology management. In contrast, skills such as conflict resolution, entrepreneurial skills and cultural competency are taught less frequently[16]. It is recommended that soft skills be introduced at an early stage of the undergraduate curriculum in order to sensitise students, for example through interactive classroom learning, community learning and early clinical exposure[15]. A scoping review of teaching methods for soft skills in health professions education identified that discussions, hands-on activities, simulations, feedback, group work, case studies and lectures were the predominant approaches. Demonstration, role play, self-reflection and escape rooms were less commonly employed[16, 17]. The assessment of soft skills is most effectively achieved through criterion or competency measures with direct observation. However, the resources required are not always feasible. Consequently, the most frequently used assessment tools described in the literature rely on self-report and self-assessment or less frequently on assessment by others, such as tutors, mentors, peers or a combination of both (self and others)[16].

Electronic portfolios ('E-portfolios') are becoming an increasingly prevalent tool in undergraduate and postgraduate medical education, serving as a valuable tool of documenting and assessing both hard and soft skills as well as supporting individualised, autonomous learning[18]. They also provide a comprehensive platform for students to engage in lifelong learning and professional development, in line with the shift towards competency-based education with a focus on the holistic development of future healthcare professionals[5, 19, 20]. E-portfolios serve to facilitate teaching, learning and assessment through the utilisation of a range of digitally stored content, which is specific according to the e-portfolio's purpose and the required activities/competencies for students at each level[21]. This includes factual content, learning strategies, reflections, observations and feedback[18]. In defining e-portfolios, it is essential to distinguish between two common types depending on their purpose and design: the portfolio as a process (process portfolios) and the portfolio as a product (also called showcase portfolios) or the integration of both, which encompasses the processes of reflection, selection and evaluation, as well as the outcomes resulting

from these processes[18, 22]. A showcase portfolio places emphasis on the final product and is typically employed for the purpose of presenting achievements and completed work. In contrast, a process portfolio is concerned with the documentation of the learning journey[22].

The use of e-portfolios offers a number of advantages, including the facilitation of the monitoring and assessment of student competency development, while simultaneously encouraging self-reflection and engagement with complex technological environments[21]. Another advantage is transferring the responsibility for learning from the teacher to the learner, thereby fulfilling the learner-centredness and personalised learning that have become key priorities in healthcare professions education[18]. However, the implementation of e-portfolios presents a number of challenges, particularly in resource-constrained settings, which include the management of technology, user acceptance and usability and the increased workload of students and supervisors[21, 23]. The successful implementation therefore requires careful consideration of the educational context, the integration into the curriculum and the technological infrastructure that will be required to support e portfolios.

In Egypt, the transition towards a competency-based undergraduate medical education was initiated in 2017 with the introduction of the Egyptian Competency Framework, the National Academic Reference Standards for the Bachelor's degree in Medicine (NARS) which outlines six competency domains including the graduate's role as a healthcare provider, health promoter, professional, scholar and scientist, member of the health team and lifelong learner and researcher[24, 25]. The national competency framework has been designed to ensure that medical graduates receive training in both clinical skills and the professional and soft skills required for the delivery of safe and effective patient care. In alignment with the Egyptian competency framework and as a response to the national accreditation requirements, the Quality Assurance Unit collaborated with the Medical Education Department at the Alexandria Faculty of Medicine to develop and implement an elective course for final-year undergraduate medical students, with the aim of fostering the development of soft and professional skills, including leadership, conflict management and communication skills[25]. While we acknowledge that the introduction of soft skills at an earlier stage in medical education is recommended in the literature, the structure of our formal undergraduate curriculum does not allow for the integration of soft skills modules in the early years (extracurricular training sessions are offered to first year students to ensure early exposure to these competencies). Over a period of two weeks, fifth and sixth-year medical students attended online lectures on the topics of leadership style, communication skills and conflict management

skills. Additionally, they engaged in a self-learning phase during which they completed an e-portfolio organised into different sections, each corresponding to the key topics and lectures covered in the course. The e-portfolio was chosen as it provides a structured yet flexible tool for students to actively engage in reflective practice, track their skills development and document their learning experiences in a personalised and meaningful way. In the initial section of the e-portfolio, students document their expectations regarding the course and outline their course plan to foster a sense of ownership, direction and responsibility for their learning journey. Furthermore, it serves as a reference point for self-assessment and progress tracking as the course progresses. In the following sections, students complete self-administered questionnaires tailored to the specific course topics, designed to enable self-assessment of their competencies in soft skills and facilitate an objective assessment of their strengths and weaknesses. Following the completion of the self-assessment questionnaires, students were required to provide reflective commentary on their questionnaire results, identifying both areas of strength and areas for improvement. The e-portfolio is concluded with an action plan, in which students set out a brief plan of action and a series of targeted steps based on their self-assessment results and insights, with the objective of further developing their soft skills. Given the resource constraints of our educational setting, it was not feasible to utilise online platforms or specialised software for the pilot implementation of this e-portfolio.

Consequently, an e-portfolio in the form of a user-friendly Word document was designed, which students can readily download, complete and return by email as part of their course requirements.

Despite the numerous countries that have integrated soft skills into their education curricula, there is a gap in the existing literature regarding the teaching and assessment of soft skills in the context of medical education, particularly in resource constrained and non-Western settings[12, 16, 26]. Unlike previous studies that have examined sophisticated digital e-portfolio platforms, we investigate the user acceptability and feasibility of a low-tech, non-software-based e-portfolio solution tailored to the constraints of our setting. This study provides novel insights into how e-portfolios can be effectively adapted for competency-based medical education in settings where conventional platforms may be impractical, thus contributing to the global discourse on equitable and scalable educational tools. In addition, this study examines the effectiveness of an elective soft skills module and the challenges of integrating soft skills training into a medical curriculum where such training is often marginalised. This study provides novel insights into best practices for teaching and assessing soft skills in under-resourced medical

schools and how e-portfolios can be effectively adapted for competency-based medical education in settings where traditional platforms may be impractical. By addressing these gaps, this study contributes to the global discourse on equitable, scalable and contextually relevant medical education strategies. Additionally, the qualitative analysis of the perspectives of undergraduate medical students is a relatively understudied area of inquiry, despite their important role in the education and curriculum development process[4].

Therefore, this qualitative study aims to explore the learning experiences of final-year undergraduate medical students with soft skills training and the use of an e-portfolio for assessment in a non-Western, resource-limited educational setting. Unlike previous studies that have relied primarily on self-assessment for soft skills, our approach integrates both self-assessment and external assessment by mentors, providing students with comprehensive feedback of their soft skills development. In addition, we aim to explore the user acceptability of a low-tech, non-software-based e-portfolio solution tailored to the resource constraints of our setting to explore the feasibility of implementing soft skills assessment in contexts where standard e-portfolio platforms are impractical.

Methods:

Philosophical assumptions and study design:

This qualitative focus group study adopts a constructivism epistemology to explore how final year medical students' learning experiences and attitudes towards soft skills training and the use of e-portfolios are constructed through social interaction[27]. Constructivism posits that knowledge is co-constructed rather than passively received, making it an appropriate lens for understanding how students interpret and make sense of their experiences with soft skills training and e-portfolios in the context of medical education. In line with the philosophical assumptions underpinning this study, a phenomenological approach was adopted to explore final year medical students' learning experiences with integrating soft skills instruction and e-portfolios (phenomenon experienced) in the undergraduate curriculum[28]. Phenomenology seeks to understand individuals' lived experiences and the meanings they ascribe to them, making it an appropriate methodology for capturing students' subjective perceptions, challenges and reflections on this educational intervention. By adopting this approach, we aimed to uncover not only what students experienced, but also how they perceived, internalised and engaged with the learning process.

Study setting and participants:

The study was conducted during the academic years 2021/2022 and 2022/2023 between December 2021 and April 2023 at the Alexandria Faculty of Medicine, which offers a fully integrated, competency-based medical curriculum of six years, followed by one practical year. Eight consecutive cohorts of fifth- and sixth-year medical students participated in the study after completing a two-week online elective course designed to provide them with knowledge and skills related to soft skills such as leadership, communication and conflict management and completing an e-portfolio during the course, which is also the requirement to pass the course.

Sampling and recruitment:

For this research, purposive maximum variation sampling was designed, where final year medical students attending the two-week elective soft skills course (a total of 177) were invited to focus group discussions about their attitudes and learning experiences with the soft skills course and the e-portfolio. Different participants (5th and 6th year medical students) from different programmes (Egyptian and International) from different cohorts (academic years 2021/2022 and 2022/2023) were selected to allow for the study of a wide range of learning experiences and to maximise opportunities for data collection. Recruitment was carried out primarily through announcements on relevant social media groups for final year medical students and participation in the study had no impact on academic grades during the elective course. There was no pressure or coercion and participants were free to withdraw or refuse to answer questions at any time during the discussions.

Data collection and analysis:

Focus group discussions were conducted to gain a deeper insight into the students' learning experiences and perceptions of the effectiveness and usefulness of the elective soft skills training and the e-portfolio as a reflection and assessment tool.

The focus group discussions were conducted online using the Zoom platform, transcribed and analysed inductively using qualitative data analysis software ATLAS.ti (a computerized indexing system, GmbH, Berlin, Germany). An iterative approach to data analysis was adopted, with data analysis taking place concurrently with data collection. The data were transcribed by the main researcher (MS). We followed the basic stages of qualitative content analysis, beginning with decontextualization. During this phase, the lead author (MS) systematically segmented the transcripts into smaller units and assigned codes to key phrases or concepts deemed significant and relevant to the research question. This process was carried out on three focus group transcripts, after which data saturation was achieved[29]. This was followed by the re-contextualisation phase, during which author AB reviewed the original codes to verify their accuracy in representing the data, whilst ensuring that the original context was maintained. During the categorisation phase, the authors (MS and AB) organised similar codes

into broader themes, allowing patterns to emerge within the data. In the final compilation phase, the relationships between these themes were analysed to derive meaningful conclusions and insights. Throughout the process, the codes were iteratively revised and refined to ensure that they accurately reflected the data[30]. Throughout the various stages of analysis, both authors regularly reviewed the coding and interpretation of the data. Any differences in interpretation were resolved through discussion and negotiation, followed by a consensus process to ensure agreement among both authors[31]. Selected quotes from participants were translated into English by the lead researcher MS for publication purposes. To ensure accuracy and to preserve meaning, translations were reviewed and revised by a professional translator, a step taken to enhance the credibility of the findings.

Ethics approval and consent:

Ethical approval for this study was obtained from the Ethics Committee of the Faculty of Medicine, Alexandria University, under serial number 0306533, IRB NO: 00012098, FWA NO: 00018699. Students gave written consent to participate in the study, which had no impact on the outcome of the course and their academic performance was unaffected. Anonymity, confidentiality and privacy of student data were rigorously maintained throughout the study. Only the researchers and participants were present during the focus group discussions, ensuring a confidential environment that encouraged open and honest sharing of experiences. Focus group recordings were securely stored in confidential folders to protect the privacy of the participants. Upon completion of the analysis process, all recordings were permanently deleted to maintain confidentiality and data integrity.

Reflexivity:

The authors and researchers of this study, who are also the developers, tutors and assessors of the elective course, can be seen as insiders who are familiar with the students and their progress, having taken responsibility for teaching all participants and providing ongoing support throughout the course. While this positioning allowed for a deeper understanding of contextual nuances, we are aware of its potential disadvantages, particularly in terms of the power dynamics between tutors/researchers and students/participants. To mitigate this, the focus groups were conducted after the course had been fully completed and after students had been notified of their grades and had passed the course. In addition, we maintained a reflexive approach throughout the research process, acknowledging

our potential biases and critically examining how our roles may have influenced students' responses. A research diary was kept to document reflections on interactions with participants, ensuring transparency in the interpretation of data. Whilst anonymisation of student responses was implemented to minimise potential response bias, we recognise[32] that our previous tutor-student relationship may still have influenced participant responses through social desirability bias. We also recognise that the intensive involvement of the researchers in teaching the course may have potentially influenced the process of analysing the data. This was avoided by anonymising students' names, carefully reviewing the analysis and participating in discussions[33] to reach consensus. From a constructionist perspective, we acknowledge that knowledge is co-constructed within the research setting and the pre-existing relationship between researchers and participants may have shaped their narratives. While the familiarity between students and researchers may have facilitated openness in discussions, it may also have influenced the way students framed their experiences. To further mitigate this, we encouraged participants to share both positive and critical perspectives on the course and e-portfolio experience, emphasizing that all feedback was valuable for future improvements.

MS and AB facilitated the focus group discussions. MS is a female mid-career scholar specialized in medical education, holding a master's and an MD in medical education and is an experienced qualitative researcher. AB is a female senior scholar specialized in clinical pharmacology and quality assurance, holding a master's and an MD in clinical pharmacology, as well as a master's in quality assurance.

RESULTS
Participants:

Eight focus group discussions were conducted online via the Zoom platform with a total of 92 participants (a total of 177 students attended the elective course) from 8 course cohorts. They represent 52 % of the invited participants. Each focus discussion lasted between 33 and 48 minutes. Although we did not collect formal data on reasons for non-participation, possible factors include academic workload, scheduling conflicts and varying levels of interest in the study.

Coding framework:

The coding framework was composed of four major themes and is shown in Table 2.

Table 1: Themes of the coding framework and their description:

Theme	Theme title	Theme description
1	Soft skills value	This theme describes students' perceptions of the value of integrating the non-clinical soft skills in the undergraduate curriculum.
2	Soft skills assessment	This theme describes students' perceptions of the e-portfolio as an assessment tool for non-clinical soft skills.
3	The language of the e-portfolio	This theme describes students' perceptions of the use of English as a language of reflection within the e-portfolio.
4	The digital format of the e-portfolio	This theme describes students' perceptions of the online digital format of the e-portfolio.

Table 2 Coding framework.

Theme 1: Soft skills value:

This theme explores how participants perceived the value of integrating the soft skills in their undergraduate curriculum. There was a consensus among participants about the value of soft skills to prepare them for future practice by identifying their strengths and weaknesses in critical areas such as conflict management, leadership and communication skills, which are essential for the transition to real medical practice:

"In general, I feel that we are approaching our graduation and that we will soon be expected to deal with real-life situations. That's why we should know our strengths and weaknesses in conflict management and leadership. And even if we are not in a leadership position, we need to have good communication skills because we will be working with other people." (Female participant, FG 1).

"I have found it valuable because it gives me feedback about myself, it gives me an evaluation of my personality. It is useful for me because I can work on my strengths. Because later we will definitely be working in a team and we will have relationships." (Male participant, FG 1)

The content broadened participants' awareness of soft skills and encouraged them to reflect on their leadership potential, even among those who had not previously considered themselves as leaders.

"I learned new things I didn't know before, like leadership. I've never been a leader in any situation in my life. And after completing the questionnaire, I discovered that I am a participative leader. I was surprised because I thought I was a delegating type who doesn't do anything but lets the followers do everything." (Female participant, FG 2).

Participants agreed that being a doctor requires more than academic knowledge; it also requires effective leadership, communication and conflict resolution skills. This realisation was particularly emphasised, with participants indicating that the course had made them aware of the importance of these attributes beyond mere academic achievement and being a "walking book":

"The doctor is not just a walking book. We are more than just books walking around with knowledge. We should be able to be good leaders and communicate with patients and our team. We should be able to resolve conflicts." (Female participant, FG 5).

While some participants felt that soft skills development should have started earlier in their medical training, they recognised the potential benefits of the course, including improved team dynamics in group assignments. They felt that early self-awareness of their personalities, strengths and weaknesses could have facilitated more efficient task allocation and reduced conflict over leadership roles.

"I feel that it is too late for us to do something like this. I think we should have started earlier, maybe in the first year of our studies. It would have helped us to evaluate our strengths and weaknesses and our personality traits. It would have made our group assignments easier, because we would have known the characters and personalities of the group members, so that everyone would get the task that suits them, instead of fighting over who is the leader." (Male participant, FG 8).

Overall, participants found the content valuable in enabling them to explore and develop their soft skills, which had not previously been formally addressed in their medical curriculum.

"This is the first time we are learning about the content of soft skills. And that's why I think this course is really valuable, because without it we wouldn't have learnt about the soft skills." (Female participant, group 8).

Theme 2: Soft skills assessment:

This theme explores the participants' perspectives on the e-portfolio as an assessment tool for soft skills training in the undergraduate curriculum. Study participants expressed positive views on the educational value of the e-portfolio and its role as an assessment tool, which they attributed to several reasons, e.g. is comparability with those used in international contexts, such as universities and companies as well as its intrinsic educational value that enhances learning. Other reasons included its additional value as a self-assessment instrument, in addition to its conventional role as an assessment tool:

"I think the introduction of the portfolio in the undergraduate curriculum is a very good step. This portfolio is similar to other portfolios that I have seen in other international universities and also in large companies. So, the portfolio has a very good standard and the information after each section and after each questionnaire has an educational impact. It doesn't just leave us with the results of the questionnaire but explains to us what our results mean." (Female participant, FG 1).

However, participants identified several challenges, particularly difficulties in articulating reflections and action plans in writing, which may be attributed to their limited experience with writing in medical school, which relies predominantly on multiple-choice questions (MCQs) as the primary assessment method:

"My problem is that I cannot express myself. I didn't know what to write, I can't write an action plan. I have a plan in my head, but I cannot express it in words or in a written text. But I have tried to write something. I cannot express myself either in English or in Arabic." (Female participant, FG 2).

"At a time like this, we don't write much. We are not used to writing. So, writing for the first time was difficult. We haven't written essays for a long time; I can't remember the last time I wrote an essay. All our exams are MCQ, so we don't even write essays in the exams." (Female participant, FG 8).

Consequently, the preference for oral and written reflections was met with a certain degree of ambivalence. While some participants find written assessments particularly challenging due to their lack of practice and familiarity with this format, others recognize the value of written reflection as a means of achieving a more profound understanding of the learning experience:

"Oral reflection is definitely better than written reflection because not everyone can express their thoughts and feelings in a written form. We can express ourselves better by talking, by telling what went well and what didn't and by reflecting on the patients we met. We prefer speaking to writing." (Female participant, FG 8).

"I feel the opposite. I feel that written reflection has a stronger impact. Sometimes I explain something verbally and I think I understand it very well, but when someone asks me to write it down, using the right terms and expressions, I find that I don't understand it very well. Talking is easy, but writing is deeper and more profound." (Male participant, FG 8).

Participants were divided in their views on whether the e-portfolio should serve as a summative or formative assessment tool. Some participants expressed concern that grading would introduce stress and pressure, which could detract from the intrinsic value of the e-portfolio in terms of enjoyment and self-exploration:

"I think if the portfolio was graded it would put a lot of pressure on the students. The more grades, the more pressure and stress. I like that we do it for fun and to learn more about ourselves and to learn new skills. But without marks. The thought of a graded portfolio makes me anxious at the moment. It would be hard." (Female participant, FG 2).

They highlighted that the absence of grades would enable them to engage with the portfolio in a relaxed and personal manner, thereby enhancing its intrinsic educational   value:

"Enough marks please. When I fill in the portfolio now, I am in a very good mood and relaxed. I am happy to fill it in because I know that it will benefit me personally. But if there are marks on it, I'll just fill it in to hand it in and get the 2 or 3 marks and that's it. It will lose its value if you give marks for it. We will do it for the sake of the marks and not to explore our abilities." (Male participant, FG 8).

Conversely, other participants noted that grading would increase their attention and interest in the portfolio, arguing that in the context of their educational culture, graded assignments are more likely to be taken seriously, while voluntary tasks might be disregarded:

"For us in Egypt, we value anything that gives us marks. So, if you introduce a portfolio with grades, it would increase the attention and interest in it. But if it is just voluntary, many students will ignore it." (Female participant, FG 8).

Overall, the e-portfolio's role in soft skills assessment is highly valuable due to its educational benefits, its alignment with international standards and its capacity for self-assessment. However, in an assessment program dependent on MCQs, it would be a challenge for students to do reflective writing.

Theme 3: The language of the e-portfolio:
This theme explored the role of the filling-in of the e-portfolio in a language other than the mother tongue, in this case English, which is the language of instruction, rather than Arabic, which is the native language of participants and the main language for communication with

peers, staff and patients. There were mixed views among the study participants about the language to be used in the e-portfolio, depending on their individual level of English proficiency. While some participants were concerned about the complexity of the English language as it limited their expression to the phrases they already knew; other participants were not proficient in writing in Arabic and found the English questionnaires more convenient:

"2: Some of the English phrases were difficult to understand and that could be a problem. We need a simple language.

Moderator: Do you think that writing the reflective comments in Arabic would give you a better chance to express yourself?

2: Yes, I would feel much freer to express myself. I feel restricted in expressing myself in English. I am limited to the English phrases I already know; I can only use the words I have already learnt.

1: I totally agree with what student number 2 said about language. But for me it would be the complete opposite. I am not very good at writing in Arabic. So, the questionnaires were convenient for me because they were in English. But for me personally it would have been very limiting if it was in Arabic." (Female and male participants, FG 1).

"The level of English used in the e-portfolio was not difficult. I had no problems with it." (Male participant, FG 5).

The variation in language preference and proficiency highlights the importance of considering individual background and education when implementing language choice in medical education instruction and assessment. While some participants favoured the use of Arabic for a more expressive experience, others appreciated the convenience of English:

"I think the language preference depends on each student's individual upbringing and education, which influences whether they express themselves better in Arabic or English." (Female participant, FG 5). This divergence in language preference highlights the need for flexibility and inclusivity in responding to the linguistic diversity of medical students.

Theme 4: The digital format of the e-portfolio:
This theme explored participants' preferences for the online digital format of the e-portfolio. While some participants found the current Word document format acceptable, noting that filling in a Word document was

straightforward and did not pose significant technical challenges, others would have preferred an online tool such as Google Forms for greater convenience:

"The format is fine. I don't mind filling in a Word document. It's the same as Google Forms. Both are the same for me." (Male participant, FG 6).

Other participants who expressed dissatisfaction with the current format attributed this primarily to the lack of automatic calculations and the tedious nature of manually editing and tallying the results:

"I think it would be easier for us and for you if it was on google forms. It would automatically calculate the scores instead of us doing all the calculations and adding up the scores to know which leadership style we are, for example." (Male participant, FG 5).

Some participants found the current Word document difficult to download, further supporting the suggestion of an online solution:

"I didn't like the format. I had to edit the document every time I wanted to write something. I would have preferred it to be an online tool. Like the surveys we do online. And we wouldn't have to do the calculations." (Female participant, FG 4).

Overall, the analysis shows a strong preference for digital tools due to their efficiency, ease of use and enhanced data management capabilities. These findings suggest that incorporating digital solutions could improve the overall experience of using e-portfolios, making them more effective and user-friendly.

DISCUSSION
The move towards competency-based medical education has emphasised the importance of soft skills alongside clinical skills for effective patient care and healthcare delivery. However, integrating and assessing these skills into an already crowded curriculum remains a challenge. This study explores the learning experiences and challenges of teaching and assessing soft skills in a resource-limited setting, where technological and financial constraints add to the difficulties. In the following section, we discuss our findings in relation to the literature and propose recommendations for improving soft skills education based on insights from final year medical students in a non-Western context.

Our results indicate that final-year medical students recognize the value of soft skills for transitioning to real-world medical practice. Specifically, they perceive

effective leadership, communication and conflict resolution as equally important to clinical and technical proficiency, which is consistent with previous studies, where medical students believed these skills should be an integral part of medical training[4, 34, 35]. Final year medical students recommend introducing soft skills at an earlier stage of the undergraduate medical curriculum, rather than waiting until the final year. Early exposure would facilitate the development of effective team dynamics and mitigate the potential for conflict over leadership roles, as observed in group assignments throughout the undergraduate phase. This is in concordance with previous studies that support the introduction of soft skills early in the undergraduate curriculum and highlights the need to improve teaching methods and curricula in undergraduate medical education to address gaps in these areas[15, 36].

While we piloted the e-portfolio for summative assessment purposes, submission alone was sufficient to pass the course, as the quality and depth of the reflections were assessed only for research purposes and not for summative decisions due to the limited familiarity of students with reflective writing in our medical school[25]. There were mixed views about the use of the e-portfolio for summative versus formative assessment in our sample, which is related to the institutional culture in our medical school: while summative assessment tasks are often taken more seriously than formative ones, some students expressed concern that grading would introduce stress and pressure, potentially detracting from the intrinsic value of the reflective tasks in terms of enjoyment and self-exploration. These perspectives reflect the ongoing debate in the literature, where some authors argue that the quality of reflections diminishes when they are undertaken for assessment[37], while others contend that reflective practice may not occur at all unless it is required as part of an assessment task[38].

Our results show a positive view of the e-portfolio use, which can be attributed to several factors, such as its role in enhancing learning and increasing students' motivation to engage effectively in reflective learning[39 - 41]. The literature presents mixed views on the use of e-Portfolios to facilitate reflection, with some studies indicating that students appreciate the opportunity, while others report resistance to its use[39, 42].

A key advantage of using e-portfolios according to our sample is its comparability with international medical education contexts, which could be explained by the fact that many Egyptian medical students have intentions to pursue educational and work opportunities abroad and therefore see the introduction of an e-portfolio as a valuable tool that makes their education comparable

to international standards, which could facilitate their transition to international institutions[43]. This finding is novel in that it highlights the importance of comparability with international standards in non-Western settings. In contrast to Western contexts, where e-portfolios are valued primarily for their educational benefits, our study suggests that in regions such as Egypt, students view e-portfolios as a tool to align their education with international medical schools, potentially facilitating their international mobility. This perspective reflects wider socio-cultural and economic factors, in particular the growing trend of medical workforce migration and the desire of students to secure better career prospects in high-income countries. The globalisation of medical education has led to an increased emphasis on standardisation and accreditation and students in resource-constrained settings may see tools such as e-portfolios as a means of demonstrating their competence in an internationally recognised way. It is also consistent with the brain drain phenomenon, whereby medical graduates from low- and middle-income countries seek employment opportunities abroad due to better salaries, working conditions and career advancement opportunities. The emphasis on international comparability suggests that, beyond its pedagogical benefits, the e-portfolio is perceived as a strategic asset that can enhance students' mobility and competitiveness in the global labour market. These findings highlight the dual function of e-portfolios in non-Western settings - not only as a tool for reflective learning and skills development, but also as a means of enhancing global career opportunities. Future research could further explore how such digital tools influence students' career aspirations and mobility trends in different socio-economic contexts.

Our findings revealed mixed experiences among the participants according to the variation in language preference and proficiency depending on the educational and linguistic background in high school. In all medical schools in Egypt where English is the primary language of instruction, students with limited prior exposure to English may encounter language barriers that negatively impact their learning, as the limitations of working memory and the increased complexity of brain activation and information processing are more pronounced when instruction is conducted in a foreign language[44].

Although an e-portfolio should not simply replicate a paper-based portfolio in digital form, resource constraints have made the implementation of portfolios, whether paper or electronic, too resource intensive for developing countries like ours[45]. We faced a significant dilemma between the long-term commitment required to invest in e-portfolios and the immediate need to comply with accreditation requirements in Egypt, which mandate

that medical schools implement e-portfolios; consequently, balancing these competing demands presents a challenge for medical schools in resource-constrained settings[46]. In our study, the lack of a stable and high-quality information technology infrastructure, which is essential for the successful implementation of e-portfolio software, as well as the lack of support from information technology units and marketing and communications teams and limited access to computers in the clinical setting, necessitated the use of more accessible, though less optimal, solutions[5]. Despite these challenges, our results show an overall positive experience with the downloadable e-portfolio, which was well received, described as straightforward and did not present significant technical difficulties, although other students would have preferred a digital platform with automatic calculation of questionnaire results. For educational settings with limited resources, we recommend balancing the available technological infrastructure with the urgency of implementing an e-portfolio. Our experience has shown that an e-portfolio can be effectively used and accepted by users even in the absence of specialized software platforms.

A number of approaches were used to ensure the quality and rigor of this research, including reflexivity (which is addressed in the methods section), transferability, credibility and dependability[47]. Transferability (external validity) was achieved through detailed describing the sample setting and results and credibility (internal validity) was achieved through comprehensive evidence collection and prolonged participant observation during the course[48]. The validity of the research was also supported by the alignment between the research question (exploring the learning experiences of final year undergraduate medical students with soft skills training and the use of an e-portfolio for assessment) and social constructivist epistemology, which views participants as co-constructors of their experiences and meanings[27]. Dependability (reliability) was enhanced by using systematic processes for sampling, data collection and analysis, along with debriefing sessions and discussions of the findings[49]. Although member checking was not feasible in this study because the participants were final year medical students who were no longer available by the time the data were transcribed and translated, other rigorous measures were taken to ensure the quality and credibility of the findings, as outlined above.

A limitation of this study is that it focuses solely on the student perspective, providing insights from one very important stakeholder group but excluding the perspectives of other important stakeholders, such as faculty and curriculum developers, to prioritize a more thorough exploration of final year medical students' learning experiences with the teaching and assessment of soft skills

and to actively engage them in the change management process as early as possible. In addition, the study was conducted within a single medical school, which may limit the generalisability of the findings to different institutions with different curricula, resources and educational contexts. Another limitation of this study is the issue of translation, specifically in relation to conducting the focus groups in Arabic, as recommended in the literature to ensure that qualitative data collection takes place in the participants' native language. While this decision is consistent with best practices for enhancing the authenticity and richness of qualitative data, the impact of translation remains a well-discussed concern in the literature[50, 51]. Within the social constructivist epistemology within which this study is situated, meaning is constructed rather than simply expressed through language, thus making the translation process even more complex. Translation has compromised a full discourse analysis as well as listening to tapes while reading transcripts[30]. However, as discourse analysis was not the focus of this study, translation did not have a major impact on the data presented. We also made rigorous translation decisions about why, when, how and by whom the data were translated, following recommendations from the literature[52].

CONCLUSION

The teaching of soft skills is valuable alongside the teaching of hard skills and their integration into undergraduate medical education curricula is particularly challenging in resource-constrained educational settings where medical schools face the dilemma of meeting immediate national accreditation standards while trying to implement sustainable educational innovation strategies. Finding a balance between these competing demands, while respecting institutional culture and involving students as early as possible in the change management process, are essential for the successful piloting and adoption of new teaching and assessment methods. Language inclusivity is essential in settings where English is not the students' native language, as allowing them to complete reflections in either their native language or the language of instruction can foster deeper engagement with learning tasks.

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ETHICAL APPROVAL

Ethical approval for this study was obtained from the Ethics Committee of the Faculty of Medicine, Alexandria University, under serial number 0306533, IRB NO: 00012098, FWA NO: 00018699. Students gave written consent to participate in the study, which had no impact on the outcome of the course and their academic

performance was unaffected. Anonymity, confidentiality and privacy of student data were rigorously maintained throughout the study. Focus group recordings were securely stored in confidential folders to protect the privacy of the participants. Upon completion of the analysis process, all recordings were permanently deleted to maintain confidentiality and data integrity.

CONFLICTS OF INTEREST

There are no conflicts of interest.

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