

# Enhancing evidence-based health care (EBHC) knowledge and skills of medical student interns at Stellenbosch University's Rural Clinical School in Worcester

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## Background

The Faculty of Medicine and Health Sciences (FMHS) at Stellenbosch University (SU) gives medical students in their final year of undergraduate training the opportunity to do their student internship at the Rural Clinical School in Worcester, about 100km from the Tygerberg Academic hospital in Cape Town, South Africa. As part of the SU Rural Medical Education Partnership Initiative (SURMEPI) project (<http://surmeipi.sun.ac.za>), which aims to increase the number and capacity of medical doctors working in rural areas and to increase regionally relevant research, our team at the Centre for Evidence-based Health Care ([www.sun.ac.za/cebhc](http://www.sun.ac.za/cebhc)) developed a tutorial series on evidence-based health care (EBHC) and delivered them to these student interns over the course of a year.

## Methods

Five two-hour EBHC tutorials were presented to 21 student interns. The aim was to familiarise students with the basic principles of EBHC and the application thereof. Topics covered: Introduction to EBHC and formulating questions; searching databases for relevant studies; reading a randomised controlled trial (RCT); reading a systematic review; and reading a clinical guideline. Each two-hour tutorial consisted of didactic input followed by hands-on class exercises and discussions.

We set up an e-mail list and created an online learning site on Edmodo ([www.edmodo.com](http://www.edmodo.com)). We made key EBHC readings, PowerPoint slides and screencasts available on this site. It also provided a platform for discussions and enabled sharing of current events and useful links to other websites (Figure 1).

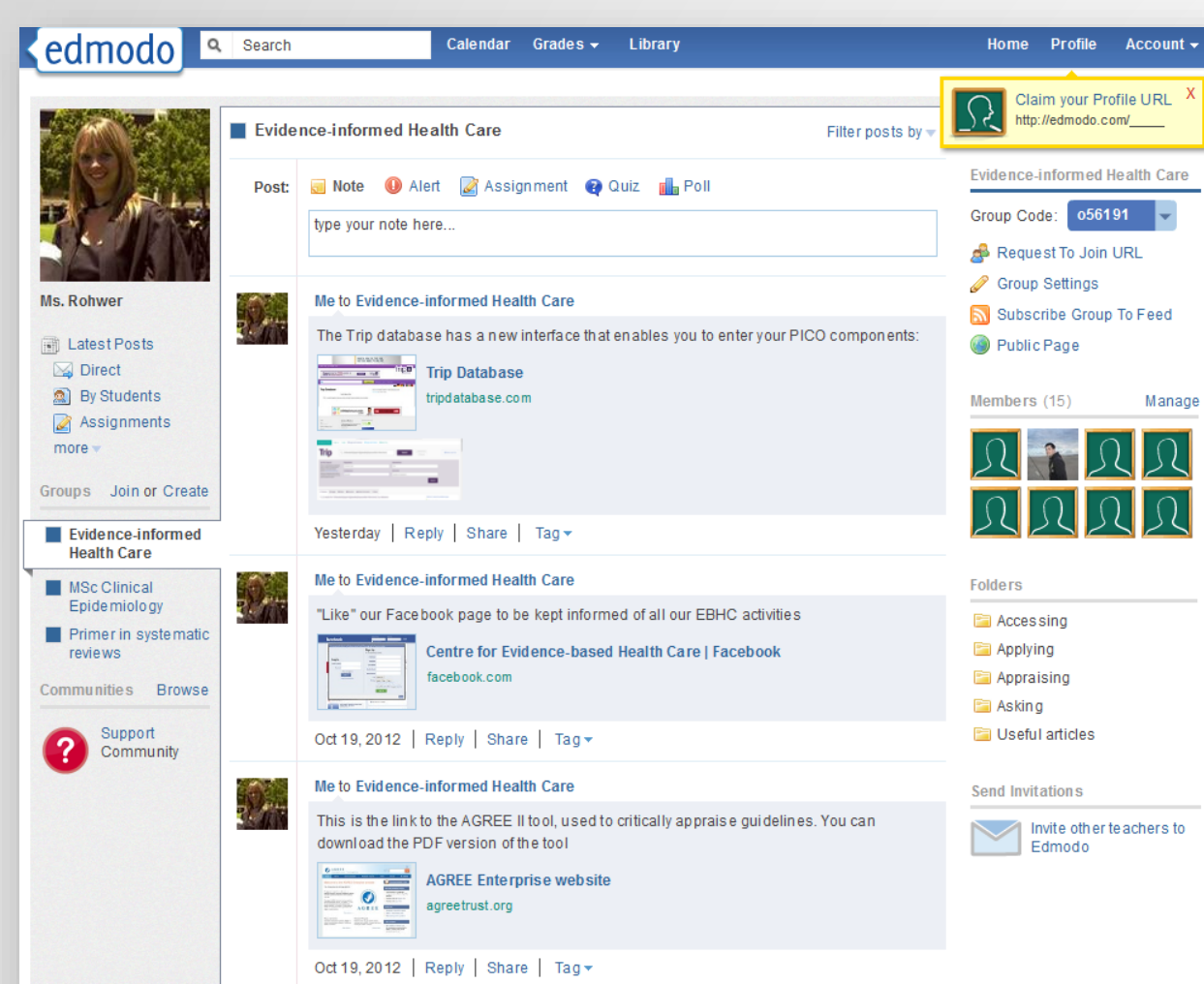


Figure 1: The online learning site on Edmodo

## Results

The series of tutorials was very well received (Figure 2). The online learning site and email list worked well to maintain contact with students between tutorials. Results of the pre- and post-course (8 months later) questionnaires showed an overall increase in students' self-perceived confidence in their ability to apply the various steps of the EBHC process (asking questions, accessing the literature, appraising the literature, applying the results and auditing the process) (Figure 3). Although students mostly had a positive attitude towards EBHC at the beginning of the year already, results indicated that students' attitudes shifted to an even more positive attitude after the tutorial sessions (Figure 4).

A challenge raised by students frequently was the issue of access to information when working in the clinical field. Once students graduate, they no longer have access to SU's Library with all the full text articles of studies; as well as electronic databases and journals. This makes it very difficult for them to actually practice EBHC, because without access to best evidence they cannot consider it in their decision-making process and thus cannot apply what they have learnt. There is a need to address this barrier if we want our graduates to practice EBHC – especially during their internship and community service years which lay the foundation of their clinical practice.

## Conclusion

Being competent in practicing EBHC not only equips new graduates with the necessary tools to deal with the information overload and encourage them to adopt a philosophy of life-long learning - it enables them to make more informed decisions about health care. This is highlighted in the recent Lancet report on the health professional for the 21<sup>st</sup> century, which proposes that healthcare professional training should become transformative. One of the fundamental shifts of transformative learning aligns almost perfectly with the steps of EBHC, namely the shift from memorization of facts to "critical reasoning that can guide the capacity to search, analyse, assess and synthesise information for decision-making"<sup>3</sup>.

Figure 2: Selected quotes from the student interns

"Thank you very much for the teaching this year, it really made a huge difference and I am now confident that I will be able to answer any questions I might have as well as critically appraise articles."

"It would be even more useful to have more frequent lessons."

Figure 3: Selected results of pre- and post-tutorial questionnaires completed by the 21 student interns

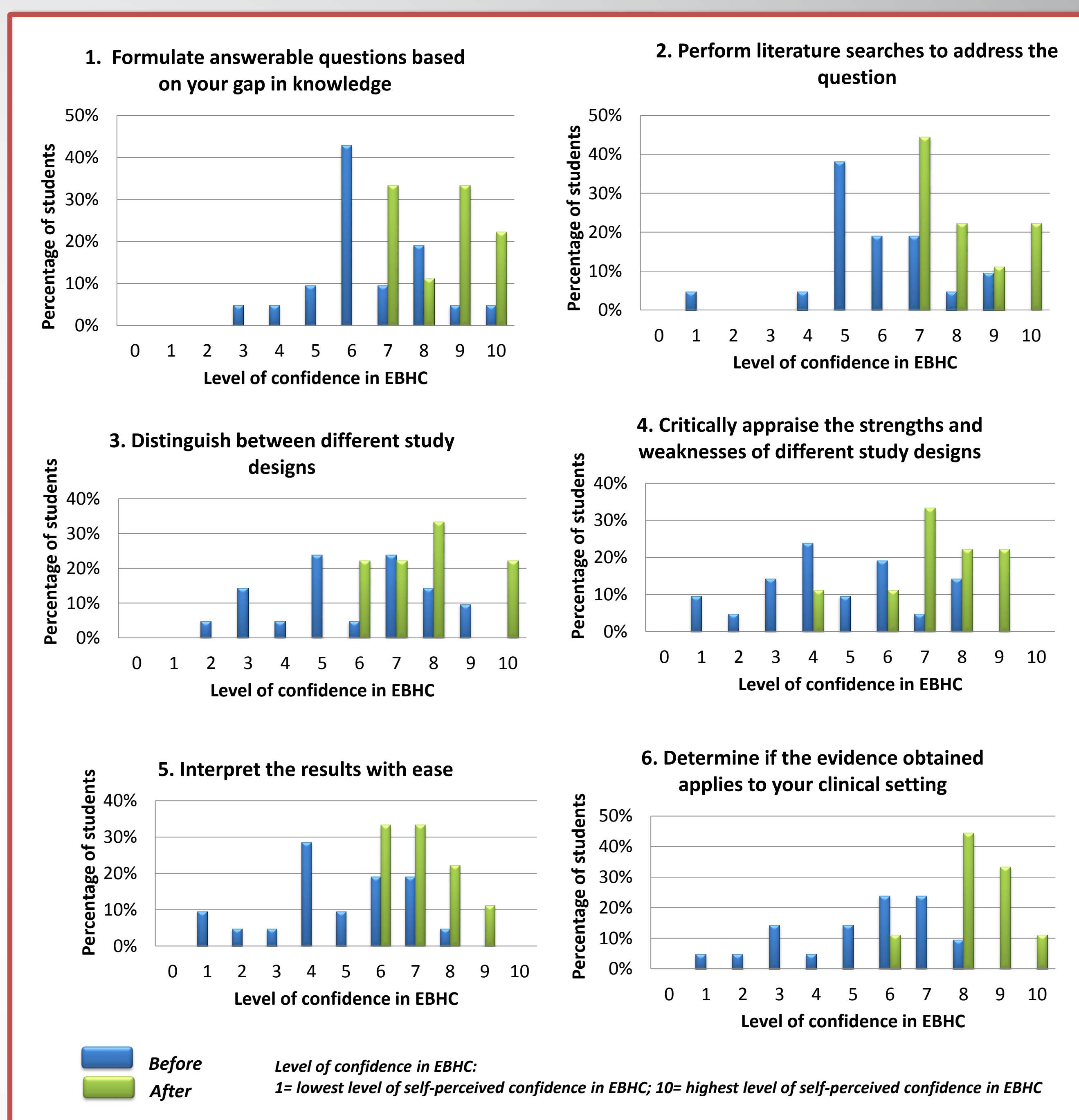


Figure 4: Selected results of pre- and post-tutorial questionnaires completed by the 21 student interns

