

## Comparison of the use of reflective learning by medical students and their respective learning styles

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Reflection is becoming an increasingly important tool for developing the approaches of both undergraduate and postgraduate medical students to learning during their training. Reflective practice is now a compulsory aspect in the training of junior doctors, and medical schools in the UK are beginning to introduce this technique in their undergraduate curricula. Reflection has also been associated with a deeper approach to learning in other populations. However, the relationship between these two theoretical frameworks has not yet been investigated in undergraduate medical students. This study aims to investigate the association between learning style and reflection in medical students at Cambridge University. A questionnaire was administered to fourth-year medical students during a revision session. The medical students had all completed three years of pre-clinical training and the session was at the beginning of their first clinical year. The questionnaire contained both the ASSIST and Reflection instruments developed by Tait and Entwistle, and Kember *et al.* respectively. Students were informed that there were no “right or wrong” responses and the responses should reflect their personal reaction. Students were given 15 minutes to complete the task. Pupils were assigned to be either reflectors or non-reflectors based on their subscale scores. The association between learning style and reflective practice were calculated using one way ANOVA with repeated measures. Statistical analysis was performed using SPSS v22. A total of 146 students (55% male, 45% female) participated in the study, with 16 students excluded as they had incorrectly or incompletely completed the questionnaire. When comparing reflectors and non-reflectors there was a significant difference between learning styles ( $p < 0.001$ ). Pairwise comparisons within the reflector group revealed a significant difference between SAA (surface apathetic approach) and DA (deep approach) ( $p = 0.006$ ). There was no difference between SAA and SA (strategic approach) or SA and DA. Amongst non-reflectors there was a significant difference between all groups (SAA vs. SA, SAA vs. DA and SA vs. DA  $p < 0.001$ ). For the first time we have shown a linear association between learning style and level of reflection. We have also demonstrated a difference between DA and SAs, both considered deeper approaches to learning.