

# Speaking for Myself

## Learning styles and evidence-based healthcare professional education

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The modern era of healthcare professional education should be one of evidence-based education.<sup>1-3</sup> As educators we should do our best to ensure that undergraduate and postgraduate students receive only educational interventions that have been proven to be effective. As a corollary to this, we should discontinue interventions that lack an evidence base or that may be harmful or that are cost-ineffective. There is broad agreement that this is the strategy that healthcare professional education should aspire towards, and yet there may be a gap between aspiration and reality. Learning styles may be a case in point.<sup>4,5</sup> The intention of analysis of learning styles is to find out a learner's style and then to tailor learning in a way that fits with the discovered style—the result should be learning that is more effective and efficient. However, there is little evidence for the utility of learning styles in healthcare professional education; some feel that analysis of learning styles may only serve to confirm unhelpful stereotypes among learners; and analysis of learning styles takes time and effort and therefore, cost and so its implementation may also be unjustified on cost grounds. This article looks at the evidence base for learning styles and suggests other methods that we might use to help our students to learn.

According to Coffield *et al.*, the most popular theories of learning style have not been proved to be effective in helping students learn.<sup>6</sup> Independent research proving their effectiveness is lacking.<sup>7</sup> Worryingly, the strong claims as to the effectiveness of analysis of learning styles have little correlation with the methodological rigour of individual studies. Coffield *et al.* have not been alone in reaching these conclusions.<sup>6</sup> Pashler *et al.* found few high-quality and rigorous studies that evaluated learning styles.<sup>8</sup> The ideal study of learning styles would randomly assign learning methods to learners with different learning styles. If a particular learning style was effective in helping learners learn, then those learners who received educational content in a form that was compatible with their learning style would learn faster than those for whom the randomization process did not result in compatibility. However, there have been very few of these studies and even fewer that actually proved the hypothesis that learning styles help. Yet another report found the evidence for learning styles to be weak and once again that despite this weakness researchers were not always forthright about the poor underlying evidence base.<sup>9</sup>

If there is little or no evidence of the benefits of learning styles, what evidence is there of harms? The main harm that can result from analysis of learning styles is that learners will become labelled by their tutors and that even worse they will start to label themselves and may think that these labels are permanent. For example, people who are told that they are visual learners following an analysis of learning styles might think that they can only learn

by visual means and that reading or listening will not work for them or that they should not even attempt to take on certain learning tasks. This will restrict the different methods that learners will use and so will restrict their learning and ultimately their achievements. Another problem in this area is the tendency to oversimplify a complex phenomenon. For example, the term learning style is used differently by different people—from the preference towards data collection (e.g. VARK [visual, aural, read/write and kinesthetic sensory] inventory) to processing of information.<sup>10</sup> There is also the issue of challenging learners to adopt a learning style that is not primarily their own and of encouraging them to take an active role in the self-regulation of their learning.<sup>11</sup> Another complicating factor is the tendency of different drivers to encourage different learning behaviours among learners in different contexts.<sup>12</sup>

Lastly, there is the issue of costs. Analysis of learning styles and tailoring of the educational intervention according to personal learning style take up the time of learners and assessors and can also take up the administrator's time. All this time is associated with resources and therefore costs. Since there is little evidence of the benefits of learning styles, these costs are difficult to justify. Quite simply, funding might be better spent on other interventions such as providing more tutors or more simulation experiences.

Finally, even though learners may not have learning styles, they certainly do have personalities. It may in fact be that all along we have been mistaking learning styles for personalities. Certainly personalities can have an effect on healthcare professionals' learning and on the choices that they make throughout their careers as can a range of other factors.<sup>13,14</sup> It might be wiser to concentrate on this paradigm in the future.

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