LETTER

Validation of Content of an Online Knowledge Training Program

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As behavioral support for smoking cessation becomes more widespread, there is a corresponding increase in the need for evidence-based training and assessment programs for practitioners delivering that support. It is important to document use and effectiveness of these programs so that they can be improved. One of the largest of these is the online course of the National Centre for Smoking Cessation and Training (NCSCT) that has now trained and assessed more than 11,000 trainees, including more than 5,000 specialist National Health Service stop smoking practitioners. Some of the dissemination of this information can be by full length articles (Brose, West, Michie, Kenyon, & McEwen, 2012) but there is other information that is best suited to dissemination through short research letters.

The NCSCT evidence-based training is designed to improve competences to provide effective behavioral support for smoking cessation. The first stage is an online training that focuses on knowledge-based competences; a knowledge assessment consisting of 25 multiple choice questions is taken before accessing the training content and again as a summative assessment at a later point to achieve certification. Trainees can access as many or as few pages of the training as they feel necessary before attempting the summative assessment. The training has been shown to increase knowledge as intended (Brose et al., 2012).

Although the questions used in the pre- and post-training assessments are not identical, they are drawn from the same pool, and a question therefore remains as to whether the online training course increased knowledge or whether taking the pre-training assessment served this function. Embedded in the content pages of the training are 85 multiple choice questions to aid learning; each with four response options for trainees to test their understanding of the information presented on the associated page. Our aim was to assess use of and correct responses to these formative self-assessment questions to determine whether trainees were learning from the pages that they were viewing.

By October 16, 2012, 11,075 trainees had registered for the online knowledge training. Content pages linked to self-assessment questions were viewed between 1,448 and 7,148 times. The formative questions were answered between 822 and 3,843 times; the median number of attempts was 2,306 and the mean number was 2,350.4 ($SD = 663.2$). Overall, 65.3% of views resulted in an attempt to answer the associated question ($SD = 10.1\%$, range: 41.6–86.8). Questions in the first section of the training program, which is related to smoking in the population, had the lowest average proportion of attempts, questions in the section about what is and is not effective in helping people stop the highest average proportion (Table 1).

On average, the correct option was chosen in 96.8% of attempts ($SD = 0.02$). A question about prevalence in different populations was answered wrongly most frequently (10.3% of 3,843 attempts), whereas a question about reproductive health was answered correctly every single time ($n = 2,691$).

Table 1. Use of Self-Assessment Questions in Each Section of the Training Program

Training section	Frequency of attempts, mean (*SD*)	Attempts as percentage of page views, mean (*SD*)	Percentage correct, mean (*SD*)
1—Smoking in population	3373.1 (450.5)	60.4 (6.7)	94.5 (2.6)
2—Smoking and health	2817.4 (120.2)	65.8 (7.0)	97.7 (1.3)
3—Why hard to stop	2859.3 (132.5)	61.6 (9.6)	97.1 (1.4)
4—Process of stopping	2771.5 (66.4)	65.6 (5.6)	97.6 (0.7)
5—Effective help	1916.2 (407.8)	66.8 (11.3)	96.9 (1.8)
Total	2350.4 (663.2)	65.3 (10.1)	96.8 (2.0)

In conclusion, a substantial percentage of trainees made use of the self-assessment questions to test their understanding; two thirds of those viewing a page also used the related question. When they did so, they generally selected the correct answer. It is possible that only trainees who had a very good understanding and level of knowledge choose to assess themselves prior to taking a formal assessment; this could be investigated by making the self-assessment questions mandatory for a sample of new trainees registering for the program. An alternative conclusion is equally plausible: that the training content is presented in a clear and understandable way that enables trainees to gain knowledge.

REFERENCE

Brose, L. S., West, R., Michie, S., Kenyon, J. A. M., & McEwen, A. (2012). Effectiveness of an online knowledge training and assessment program for stop smoking practitioners. *Nicotine & Tobacco Research*, *14*(7), 794–800. doi:10.1093/ntr/ntr286