Quality Control of Knowledge Assessment Questions for Training Courses held on the IAEA/AAPM TRS-483

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INTRODUCTION

The IAEA seeks to standardize training course content and delivery methodology, based on quality control procedures that include comparisons of knowledge assessment tests results. This procedure was applied to five training courses based on the IAEA/AAPM Small Field Code of Practice, TRS 483.
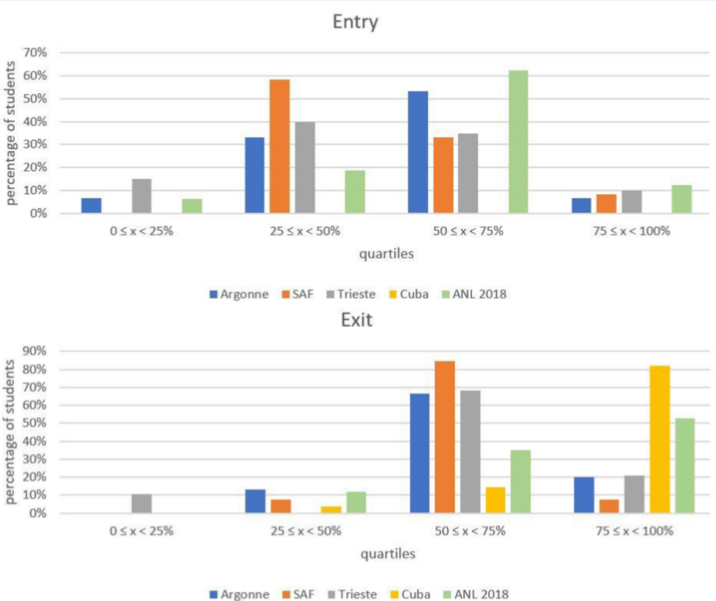
AIM

Perform quality control of the knowledge assessment tests distributed during five different editions (two in Argonne, Cuba, South Africa and ICTP) of the same IAEA training course on small field dosimetry. The result will inform a revision of the knowledge assessment test for future editions of the same course and for the relevant e-learning package.
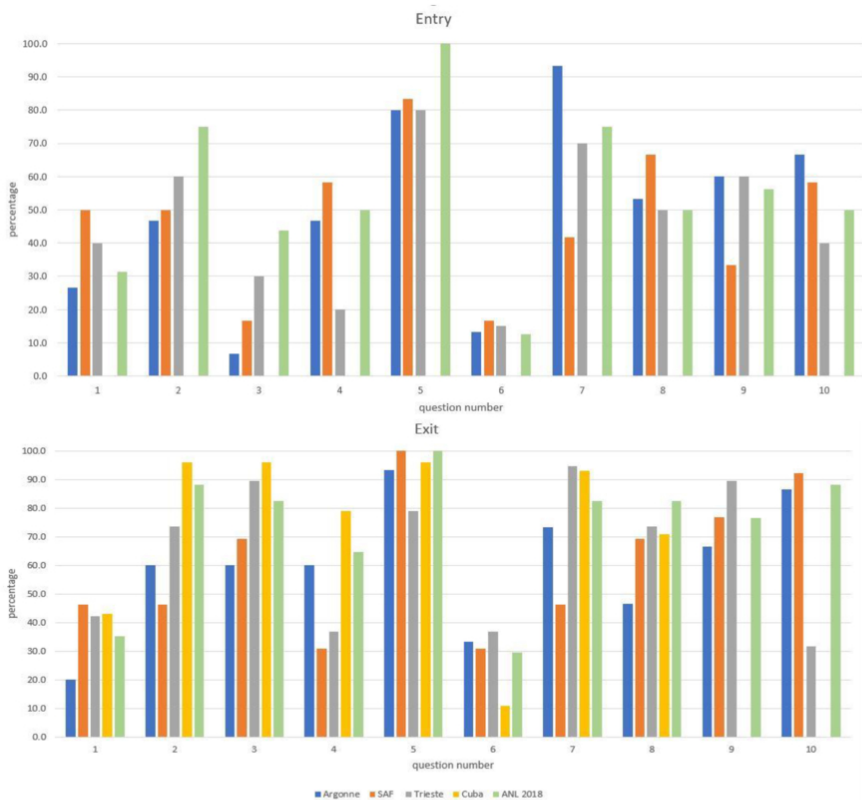
METHOD

- Analysis of correct answers to a selection of ten multiple-choice questions that were administered before and after each small field dosimetry course

- Comparison of results obtained for the same questions that were used in all five training courses

RESULTS

1. The analysis of the test scores showed that the performance on two of the questions resulted in consistently low (<50%) scores in both tests across all editions of the courses. This included the course in Cuba, which was given in Spanish language;

2. One question had very good scores at entry and exit and can therefore be considered redundant for assessing knowledge gained from the course

3. Questions with persistently bad scores point to material that needs to be explained better, topics that should be allocated more time during these courses or questions that are not worded well enough;

4. Since different experts were used to teach on the courses, the scoring could not be linked to the quality of instruction;

5. Overall, the test results showed that participants improved their test performance after the course.

Comparison of correct answers to the same questions across courses and at the entrance and exit test

Comparison across different editions of the training course of correct answers at the entry and exit tests per quartile

Practical session during the ANL training course of 2015, University of Chicago Hospital

CONCLUSIONS

Quality control of the knowledge assessment tests has proven effective in identifying trends and pitfalls and has allowed to inform a revision of the test's questions, as well as of the teaching material, in view of its use for an upcoming e-learning package, to be published on the IAEA Human Health Campus.
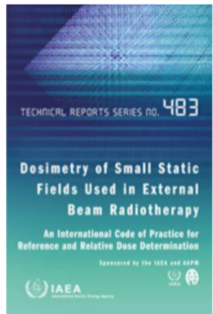
ACKNOWLEDGEMENTS

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