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Enhancing Learning and Retention for Forecasters in Residence Courses

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Since 2001 the Meteorological Service of Canada (MSC) and the Cooperative Program for Meteorology Education and Training (COMET) have delivered the two-week long residence course on winter weather (WWC). This course brings together forecasters from MSC, the US National Weather Service, defence services and from Europe. Two primary goals of this course are 1) to provide a review of foundational concepts of meteorological theory, and 2) foster the application of the science to operational forecasting challenges.

Residence training requires considerable time and effort from students and instructors, so it is important that we facilitate learning and transfer of knowledge to the work environment. To meet these challenges, the MSC introduced audience response devices ('clickers') into the 2011 WWC with great success. COMET instructional design team worked with course instructors to enhance the learning and retention by incorporating student-to-student interaction in every clicker question.

Students were also able to submit questions based on presentations throughout the day which became the basis for "applying the theory" sessions each day. In each session, the theory was applied to practical, real-time weather events where learners' questions were incorporated to pull together related topics or poorly understood concepts.

Participants provided feedback on various aspects of the course, and these instructional enhancements received positive reviews. This lends support for future use of audience response devices with interactive peer instruction, as well as refining the "applying the theory" sessions.