

**I601** Assessment and Investigation of Constructivist Science Learning Environments in Korea

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This paper describes an investigation in Korea of the extent to which a new General Science curriculum, reflecting a constructivist view, has influenced the classroom learning environment in grade 10 science. The Constructivist Learning Environment Survey (CLES) was selected for the investigation and translated into Korean. Other objectives of this study were to determine whether the Korean version of the CLES is valid and reliable, differences between students' perceptions of their actual and preferred learning environment and associations between students' perceptions of the constructivist learning environment and their attitude to science. The Korean-language version of the CLES was found to be valid and reliable and grade 10 students did perceive a more constructivist learning environment than grade 11 students who had not been exposed to the new curriculum. This suggested that efforts of curriculum reform had produced some positive effects. Students tended to prefer a more positive environment than what was perceived to be present and statistically significant relationships were found between classroom environment and student attitudes. These relationships suggest that favourable student attitudes could be promoted in classes where students perceive more personal relevance, share control with their teachers and negotiate their learning.

**I602** Classroom Environment and Teacher Interpersonal Behaviour in Secondary Science Classes in Korea

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The *What is Happening in this Class* (WIHIC) questionnaire and the *Questionnaire on Teacher Interaction* (QTI) were used to describe classroom learning environment and the teachers' behaviour in Korea. The three objectives of the study were to provide validation data for the Korean versions of the WIHIC and QTI, investigate associations between students' attitude to science and their perceptions of the classroom environment as assessed by the WIHIC and the QTI, and investigate sex-related differences in the students' perceptions. The cross-cultural validity of the WIHIC and the QTI was supported. There were positive relationships of classroom environment and interpersonal teacher behaviour with student's attitudinal outcome. Relative to girls, boys perceived their learning environments and their teachers' interpersonal behaviour more favourably and reported more favourable attitudes toward their science classes. Generally, students' perceptions of the learning environment and the teachers' interpersonal behaviour suggest that students should receive more teacher support and involvement in the teaching/learning process and cooperate with other students more than at present. Also, teachers' behaviours could be changed to be more helping/friendly and understanding in order to cater for the students' interests.