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Classroom assessments to understand chemistry

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In learning chemistry conceptual understanding is essential. Classroom assessment plays a major role in creating a meaningful learning environment and promotes conceptual understanding and critical thinking in students. Hence student involvement in classroom assessment becomes necessary as they are the ultimate users of assessment information. The aim of this study was to explore how students use assessments as a tool to learn chemistry. The study was conducted in Kandy and Matale districts. Three hundred students following chemistry classes conducted in three media of instruction were selected using stratified random sampling. An open-ended questionnaire was developed and administered to the selected students. Subsequently, in-depth individual interviews were conducted with a selected fifty students from the original sample. In addition to the questions in the interview guide, the students were also provided with their responses to the questionnaire to obtain more information and explanations about what they had written. Interviews were tape recorded and transcripts were made. Six classrooms (with two from each medium) were also observed paying attention to the practice of assessments. Data gathered from the open-ended questionnaire, interviews and observations were triangulated in the analysis. The analysis showed that, although students were interested in practicing multi-approach assessment techniques, the teachers used the traditional paper-pencil assessment practice in their classrooms and refrained from providing feedback to students to help overcome their weaknesses whilst at the same time being praised for good work. Results indicated that in assessing students, standardized test questions were frequently used and main focus was on grading and ranking the students. There was a tendency among students to concentrate on the quantity of work at the expense of quality in relation to learning chemistry. Although there was an agreement among students regarding the importance of classroom assessments they mentioned that this assessment practice did not help them learn from their mistakes since assessments were generally conduced at the end of the learning process. They were often not satisfied with the grade they obtained and stated that they had no opportunity to realize their success as learners. They appreciated having feedback from assessments considering it would help them to identify their difficulties in learning. The assessment practices in the chemistry classrooms under study did not provide a conducive learning environment which motivated students and enhanced their attentiveness and active participation in the learning process.

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