Teachers spend an important part of their instructional time to assess their students' learning since classroom assessment forms a vital part of teachers’ instruction. Researches show that effective use of assessment positively impacts students’ learning and motivation (Black & Wiliam, 1998; Kinston & Nash, 2011). The effective use of assessment is known as formative assessment or assessment for learning in literature and aims to support learning rather than assessing acquisition of content to provide summative grades. However, it is still difficult for many science teachers to use assessment in a way to support instruction as conducted studies illustrated that science teachers have rarely engaged in practicing assessment for formative purposes to aid learning (Buck & Trauth-Nare, 2009). Even tough educators plan to prepare assessment capable science teachers, researches show that teachers face with difficulties to transform their theoretical knowledge into classroom practices (Lyon, 2011; Siegel & Wissher, 2011). It means what teachers told us is different than what they did in real classrooms. Thus the study proposes to investigate high school chemistry teachers’ self-reported verses real practices of classroom assessment, which only limited studies have focused on, to illustrate the alignment between theory and practice. For this aim, the study used both quantitative and qualitative research methods to provide more details about the phenomenon. In order to determine chemistry teachers’ self-reported assessment practices, the 'Formative Assessment Survey' developed by Box (2008) was used. For participants’ real practices of assessment, four of the 26 survey participants, two of whom were self-reported high frequency users of classroom assessment and two of whom were self-reported low frequency users, were selected. Semi-structured and reflective interviews, classroom observations and instruction documents including formal and informal assessments that the teachers used during atomic structure and electron configuration units were employed as data sources in order to show the teachers’ real assessment practices.

The results of teachers’ self-reported practices showed that teachers:

a) occasionally act on assessment results to address students’ needs,
b) sometimes use different ways of assessment to elicit and assess students’ conceptual understanding,
c) mostly provide written feedback on students’ assessments, and
d) rarely engage students’ in learning and assessment process for self-regulation of learning.

On the other hand, the teachers’ real practices of assessment illustrated varying degrees of success for the alignment between their self-reported and real practices of classroom assessment. For instance, one of the high frequency user’s practices showed that she faced with difficulties to practice what she reported while one of the other high frequency user’s self-reported and real practices of assessment was more successfully aligned. Based on the results, some of the internal and external factors that limit the alignment of self-reported and real assessment practices were discussed.

Keywords: Teachers’ practices, Classroom assessment, Chemistry teachers.