ABSTRACT. Homework (HW) is an integral part of the learning process. Currently, there is renewed interest and controversy about its effectiveness. The present study explores the voices of the science teachers on this matter. Adopting the view that reporting both teachers’ views and actual classroom practices is necessary for obtaining a more complete view of the phenomena, the present study addressed teachers’ views relating to the cognitive, affective, and pedagogical aspects of HW, their in-class practices and behaviors related to HW, and if the views and practices differ. The research was conducted in 3 stages: (a) teachers’ (n = 25) behaviors were examined based on classroom observations of 3 – 5 consecutive lessons, (b) these teachers were interviewed about their beliefs about and attitudes toward HW, and (c) the data from both the observations and interviews were processed into categories and subcategories. The findings revealed a wide range of teachers’ beliefs, attitudes, and behaviors and that teachers hold both positive and negative views simultaneously. In addition, the views for some categories expressed in the interviews concurred with the teacher’s actual classroom behavior; for other categories, disagreements were identified. This research broadens the contemporary horizons regarding HW and may contribute to those who wish to work with teachers making HW more effective.

KEY WORDS: behaviors, beliefs, homework, middle-school science teachers, teachers’ attitudes

INTRODUCTION

Homework (HW), defined as tasks assigned to students by schoolteachers meant to be carried out during noninstructional time, is an integral part of the learning process in many schools. Science teachers are constantly looking for ways to address the crowded curriculum and overloaded instructional time schedule. They, therefore, look for activities and tasks that could be done outside of the normal class time. Dettmers et al. (2011) suggested that there is a renewed controversy about the positive and negative effects of HW. Although the effectiveness of HW has been challenged (Bennett & Kalish, 2006), it continues, grows, and expands as a cornerstone of students’ academic life (Bembenutty, 2011). Bonham, Deardorff & Beichner (2003) suggested that HW is one of the most important components of introductory physics instruction at the college
level, which could influence student learning and success. Despite its perceived importance, an inspection of leading science education journals reveals a lack of research concerning school science HW in recent years. For instance, in the Journal of Research in Science Teaching, only one article was found after 2000 that was related to HW in college-level introductory physics instruction (i.e. Bonham et al., 2003); in Science Education, only one article related to high school science instruction from 1985 (i.e. Tamir, 1985); and in the International Journal of Science and Mathematics Education, three articles related to high school mathematics instruction were found (i.e. An & Wu, 2012; Kaur, 2011; Zhu & Leung, 2012). The present study aims to partially fill this void by broadening our understanding of what middle-school science teachers know about, their attitudes toward and beliefs about, and their classroom practices involving HW.

BACKGROUND

One critic points to a major deficit in teachers’ knowledge about the advantages and disadvantages of HW (Dettmers et al., 2011); earlier, the MetLife survey (Markow, Kim & Liebman, 2007) found that about 20% of American teachers do not believe in the importance of HW. We provide a brief summary on beliefs and attitudes in general, the importance of examining them concerning educational issues, and a discussion of the advantages and disadvantages of HW as foundation for this study.

Beliefs and Attitudes

Alghamdi & Al-Salouli (2013) suggested that (a) the definitions of and differences between attitudes and beliefs are somewhat fuzzy and (b) the mechanism(s) that connect attitudes, beliefs, decisions, and actions are not well understood. Beliefs, a cognitive stance, are identified with an individual’s personal knowledge and result from the conclusions that an individual draws from experience (Lavonen, Jauhiainen, Koponen & Kurki-Suonio, 2004). Bryan (2012, p. 479) stated, “Beliefs are far more influential than knowledge in discerning how individuals frame and organize tasks and problems and are stronger predictors of behavior.” Beliefs form attitudes and mental conceptions that depict favorable or unfavorable feelings toward an object (Pajares, 1992). Jones & Carter (2007, p. 1067) stated, “Virtually every aspect of teaching is influenced