

Reaching out to the Horizon: Teachers' use of Advanced Mathematical Knowledge

Abstract. This paper explores teachers' use of advanced mathematical knowledge (AMK) – that is, the knowledge acquired during undergraduate university or college mathematics courses. In particular, our interest is in the use of advanced mathematical knowledge as an instantiation of knowledge at the mathematical horizon (KMH). With this tie to undergraduate mathematics education, we re-conceptualize the notion of knowledge at the mathematical horizon and illustrate its value with excerpts from instructional situations.

Key words: advanced mathematical knowledge; horizon knowledge; group theory; calculus