‘Exploring the role of content knowledge in responsive teaching’ Amy D. Robertson and Lisa M. Goodhew (Link)

The article seeks to add to the discussion around the topic of responsive teaching in STEM classes. The idea behind responsive teaching is to put a focus on student ideas, highlighting the substance in the ideas while connecting these ideas to relevant concepts of the subject, and pursing these ideas further. The ideas is to provide students opportunities to think and discuss ideas, and as they voice these ideas, assisting the students make sense of the concepts by guiding them through their own thought processes. The article discusses from other sources, some of what is required to successfully enact Responsive Teaching practices, but claims that there not much talk about the role of teacher content knowledge in this process, and that what references exist contradict, with one source claiming that the content knowledge is very important, so that the teacher has the body of knowledge to draw upon when necessary, while another warns about the content knowledge leading to over filtering the student’s thinking.

The article goes on to discuss their research on the matter. The research consists of an analysis of a single example case of Responsive Teaching, from a year 8 physical science class. The example, containing dialogue transcripts of student and teacher discussion, is broken up into 3 smaller episodes. For each, the responsive move of, and the content knowledge in use by (if relevant), the teacher was identified, and then these were examined for links to show if the responsive move relied on the content knowledge.

The lesson in the example features on energy and it’s relationship to motion. The class had seen some videos of things in motion, like a bus, a bicycle, or leaves blowing the tree, and they then discussed whether they thought the situations involved energy. The example focuses on a discussion from one group about the leaves. They were trying to decide if the moving leaves have energy or if they just use energy from the wind to move. They asked for the teacher to help them out. The teacher, after hearing the students thoughts, revoiced the student ideas, and asked questions, to link the ideas, and with some of the other examples. He then directed their thinking by offering a new situation, a rolling ball, for example, rolling down a hill, for them to think more about the ideas they were looking into.

The article finds that in the example analysed, the teacher used their knowledge of their discipline to make connections between the students ideas and the content matter, but also that the way the teacher choices voice their additions to the conversation is tied to their content knowledge. They did also note other aspects of the responsive teaching, like the place for encouraging students. They conclude that existing ideas around Responsive Teaching are important, and that the suggestion of teacher content knowledge resulting in over filtering the teacher’s listening, and constraining their responsiveness is a fair warning but the other extreme of not focusing on the content knowledge at all can lead to an undesirable teaching view of “observational listening”, so a middle ground of focusing on both aspects equally is recommended.