

Table 1. Emergent themes and sub-themes based on analysis of open-ended responses

Theme and sub-theme	Example survey response
<u>Theme 1: Fieldwork is important</u>	Field experience is integral. (learner/instructor)
<u>Theme 2: Impacts on knowledge and skills</u>	
2a. Enhances broad understanding	Field experience is crucial to a well-rounded understanding of any earth sciences field. (industry professional)
2b. Enhances specific skills, knowledge, or practice	Fieldwork is the basis of geoscience through practical methods learned in class to using techniques of observation in the field. (learner)
2c. Develops transferrable skills	Regardless of whether or not a student will directly utilize the field methods, learning to operate and cooperate with others and/or within a group under imperfect conditions is a necessary and beneficial skill. (learner)
2d. Puts theory into practice	Fieldwork is the best way to integrate classroom with the real world. The best way to learn geology is to see it first-hand and learn from experience. (instructor)
2e. Physical interaction with phenomena	Seeing and touching the rocks is necessary for full understanding. (learner)
<u>Theme 3: Personal and emotional impacts</u>	
3a. Inspiring, motivating, exciting, or engaging	Absolutely! ... It acts as a "hook" to those students on the fence! (learner)
3b. Develops a geologist's identity	Geologic mapping is the foundation and starting point for all geologic endeavors, you cannot call yourself a geologist if you don't know how to map. (industry professional)
3c. Develops self-awareness and identity	Fieldwork strengthens your knowledge through application and helps you become aware of weaknesses. (learner)
<u>Theme 4: Prepares for career or graduate school</u>	Whether they go on to grad school, or into industry, or any geoscience profession, having at least some field experience helps them to develop an appreciation for several facets of real world geology. (instructor)
<u>Theme 5: Negative aspects of fieldwork</u>	
5a. Time, expense are prohibitive	Field camps, in my opinion, are old fashioned, expensive, and concepts can be taught equally well in shorter field oriented experiments. (instructor)
5b. Negative impact on attitude or interest	This [fieldwork] should certainly be required for geology, but not other branches of geoscience. Keep in mind that not everyone is cut out for fieldwork and/ or harsh field conditions. (learner)
5c. Skills can be learned elsewhere	Students can learn methods from field camp elsewhere, in research in the field as an undergrad through an REU [Research Experience for Undergraduates program] or through their own. (learner)
5d. Too specialized for all sub-disciplines or careers	Some specialties do not focus on bedrock mapping. (industry professional)
5e. Not all students are interested	Only if these specific skills apply to the student's area of focus. (instructor)
5f. Should be recommended but not required	No [not necessary], though I do believe it should be strongly encouraged. (learner)