

Parallel Session - 8.16 (Oral Presentations)

16:00 - 17:30 Thursday, 31st August, 2023

26 Between the lines of natural and cultural heritage: A case study of a science museum field trip plan

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Participation

In-person participation

Presentation Type

Single Oral Presentation

Abstract

Field trips can enhance student's life experience and motivate them to learn. This study explored how the National Museum of Natural Science (NMNS) in Taichung, Taiwan, acts as field trip collaborator to devise field trip plans with schools and domestic community organizations to promote elementary school students' awareness of the relationships between humans, nature, and conservation efforts while experiencing natural heritage. A total of 18 elementary schools have participated in this project. The schools expect that the NMNS can organize a field trip plan incorporating reflective thinking about humans and nature rather than offering a simple guided tour of the fossil layer. The present study applied the sociocultural approach to analyze the formulation of a field trip plan and determine how the museum collaborates with domestic community organizations to encourage the interpretation of local culture and natural heritage and how the museum cooperates with partner schools to refine the teaching plan of a field trip. From March 16 to May 11, 2021, 227 students attended the aforementioned field trip. An analysis of students' posttrip journals revealed that the students had strong interactions with people in local community, but few students gained an awareness of the relationship between humans and nature. Following the participant schools' suggestion, the coastal path guided tour was replaced with an on-site hands-on activity at a colonial-period abandoned tunnel and fossil outcrop. All such events were halted because of the COVID-19 pandemic for five months. When they resumed, 391 students participated in the updated field trip between September 28 and October 26, 2021. The students' feedbacks revealed that the students noticed the changes to the landscape made by past and contemporary people. Postpractice reflections were discussed, and models relating to regional resources, science museums, and schools establishing in outdoor science education were proposed.

48 Minority Students Learning in Informal Environments: Views of Leading Administrators

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Participation

In-person participation

Presentation Type

Single Oral Presentation

Abstract

The study focuses on the reasons for limited use of out-of-school science learning (OoSL) in the Arab society of Israel, which makes 21% of the country population. We investigated views of OoSL of senior officials from the Ministry of Education and examined whether the issues they raised are manifested in field trips. We interviewed nine senior officials and observed 10 field trips to various informal environments, but due to brevity only four interviews and two field trips are presented here. We found high consensus among the administrators regarding obstacles: low awareness of the importance of OoSL among teachers, principals and parents and insufficient teacher education that emphasizes the importance of OoSL and provide support for teachers and insufficient financial resources. Yet cultural issues were addressed as the main reason for under use of OoSL by the school system. Data from two field trips demonstrate excellent vs. mediocre implementations. The reasons for the difference can be associated with lack of training of teachers and informal educators, limited communication in many settings, like the science center and with the importance of developing what our interviewees termed “field trip culture”. These findings can be interpreted through the cultural style approach to argue that the science center does not pay attention to different cultural styles. We suggest that adopting this approach could better support educators in the Arab society to implement OoSL.

735 Students' Opinions on the University Community's Sky Observation Activity as an Out-of-School Learning Environment

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Participation

In-person participation

Presentation Type

Single Oral Presentation

Abstract

This study aims to reveal students' opinions on the university community's Sky Observation Activity (SOA) as an out-of-school learning environment. In this research, the survey method was used to determine the students' opinions on the SOA. This activity includes Lunar-Jupiter-Saturn observations and it was conducted outside of school hours. 66 university students from different disciplines who participated in the SOA, voluntarily. The top five reasons of students for participating in the activity are: to be interested in the activity, learning about Lunar-Jupiter-Saturn, having a good time, improving themselves, and socializing. SOA made various positive contributions to students such as having a good time (80%), being informed about Lunar-Jupiter-Saturn (76%), and understanding the importance of participating in social activities (39%), etc. In addition, all students' satisfaction levels with the activity were over the medium. Thus, such types of out-of-school activities could be a part of formal learning.

827 Re-thinking Cultural Border Crossing: Cultures of Academia and Local Government for STEM Education

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Participation

In-person participation

Presentation Type

Single Oral Presentation

Abstract

Contemporary research on concepts of cultural border crossing has focused on students and teachers at classroom level. However, as science education is not bound to formal education only and more diverse actors emerge to play their roles for informal STEM education, broader concept of cultures in science education needs to be studied. This research aims to explore how two distinct cultures, academia and local government, have demonstrated cultural border crossing for a four-month informal STEM education through local government-university partnership in Korea. Cultural border crossings were observed in four domains: 1) orientations of the program, 2) physical resources for STEM education, 3) application process, and 4) administrative process. The two cultures have smoothly negotiated values, beliefs, expectations and conventional actions in terms of orientation and application process. These smooth transitions were significantly influenced by the university culture due to local government's acknowledgement for expertise in STEM education in the counterpart culture as well as sufficient time for discussion in the planning phase. When the program was implemented, both cultures prioritized the delivery of quality STEM education smoothly which led both cultures to compromise physical resources when problems of the educational zone emerged. Not all observed domains were negotiated or compromised. The issue of differences in fiscal year in two cultures becomes burdensome to administrative work and results in decreased efficiency, but culture of the local government perceives negotiating fiscal year is utterly impossible. The significance of the study lies in rethinking the concept of 'cultures' beyond classroom, to provide insights how diverse actors could take part to provide informal STEM education and implications for the practice of informal STEM education through local government-university partnership.