

RC1: Author response

RESPONSE: We thank the reviewer for taking the time to thoroughly review our article and present their views. We hope our responses are acceptable.

Throughout the document, please check grammar and punctuation for consistency. I have some considerations for the authors; these are listed below.

RESPONSE: Thank you. We will check the document again for grammar and punctuation.

1. Abstract: "Do we miss something about..." is more colloquial language since some readers might debate what is meant by "we."

RESPONSE: OK. We can make it more passive and write "Was something lost as society moved away from "traditional" media such as handwritten letters and photography and into the digital age?"

Also consider re-writing some parts of the manuscript and replace "we" with "the team that wrote this paper."

RESPONSE: This is a tricky one since we have been conscious about our use of "we". We understand that the all-encompassing "we" in the first sentence may confuse and we will deal with that. However, after that we feel it is quite clear that "we" is referring to the authors. In fact in some places, we write "we, the authors". We would need reviewer to point out exactly where this issue is causing confusion for us to do anything about it.

2. Line 31: "Are you old enough to remember the excitement of developing photographs?" This sentence appears to be unnecessary and it is easiest to begin the paper with the sentence "There was a time before smart phones and digital... "

RESPONSE: We will make this change. Thanks

3. Line 41: What is meant by "lost to time"? A newer generation of artists and photographers are still using film cameras. The prevalence of film is slowly becoming a novelty and older methods of developing film are being deprecated.

RESPONSE: This is an interesting point and we are aware that film photography is becoming more popular again. We will refer to this in the updated version.

4. line 76: What is meant by "journey"? Is this the conceptual process of engaging with students while engaged in a scientific investigation?

RESPONSE: In this sense it is similar to the research story we mention on line 70. However, since we refer to the work of Cooke et al (2017) we introduce their terminology of "journey". This term is used twice in sentences leading up to line 76, and we feel we introduce it clearly. The term "journey" is also the linking concept between the stress sentence of one paragraph and into the topic sentence of the next paragraph, where we describe the context of this "journey", i.e. the AKMA project.

5. line 105: How did the scientists engage and interact with the students?

RESPONSE: This question will need some expanding. In the line mentioned we state the "initial interactions with the *teachers*" and not the students. The proceeding paragraphs explain step-by-step how we engaged and interacted with the students themselves.

6. What is meant by "their" scientists?

RESPONSE: Thank you for bringing attention to this. Each class corresponded with a single scientist, which we refer to as "their" scientist. We will explain this more directly in the updated text.

7. Is there some conceptual framework for engagement used to plan the interactions between the students and the scientists?

RESPONSE: No. Only an overarching research plan, where we had a clear research question and designed the engagement and evaluation around that. And, of course, we use the ethical frameworks that we refer to in the article.

8. line 206: Please add 1-2 sentences describing and providing background for the qualitative coding method. How was the method adapted?

RESPONSE: We describe the method in the sentences straight after line 207. Since this was not clear we will add ", in the following way" to the end of the sentence.

9. line 281: What is meant by "We had designed the communication process in AKMA Polaroid"? The meaning is unclear, and please re-write.

RESPONSE: We will change this to "We designed the process in this project, AKMA Polaroid, to build upon general information about the scientific process, which the teachers presented in class. After this, the students would get to know their scientist and the science of the AKMA project through the iterative communication process of exchanging letter and photo albums."

10. Can the authors briefly comment on the location of the schools? Could any spatial differences in the responses be detected?

RESPONSE: This is a potentially interesting issue, but we feel it is not one that is within the scope of our study. This was a project to test out a method for communication not to detect differences across countries, cultures, economical standing, gender or a myriad of other potential issues. If we started analyzing one such issue then we would need to justify it, and where would that end? The question here was *if* this method could work, not what this method could tell us about other underlying societal issues.