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Interactive comment on "Climate and music (Toward development of the interdisciplinary climate and cultural understanding education of ESD with special attention to the seasonal cycle and "seasonal feeling" around Japan and Europe)" by Kuranoshin Kato et al.

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General comments: This study intends to link climate education with music education through very interesting pedagogical approaches regarding climate. Therefore, it is suitable for the special issue of this journal, Geoscience Communication. However, it also has a couple of issues which need to be discussed and revised to be more meaningful. These are some comments to consider when this article is revised.

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Specific comments: First of all, climate or seasonal changes are usually very closely related to an individual's emotions, life or culture, but many people do not feel it well or notice the connection of them in everyday life. In this regard, this paper attempted to study various scientific geographic characteristics related to climate in Japan and Europe including Germany, to think about the feelings of climate at specific seasons, and to express them with color or music, to appreciate and discuss them. Through this process, it is thought that the influence of climate on human emotions and life can be well understood. However, it may be necessary to clarify and distinguish whether changes in a specific period noted in this paper are climate phenomena that can be explained as characteristics of a longer period or meteorological phenomena caused by seasonal variations.

Second, meteorological variations and climate change have a major impact on people's lives. They can make psychological changes of people and it can change the way people act. Therefore, the ability to be sensitive on climate change to detect or link the change in life or society, is essential for a sustainable future. In terms of ESD (education for sustainable development), it is important to understand the complexity of climate itself. However, it is more important to address the complexity of climate change issue, which is not clearly visible in this article.

The third is the pedagogical aspect for climate learning. Authors use various teaching and learning methods including traditional lectures with explanations, graphs, tables, etc., and more innovative methods with project-based learning including composition, playing with instruments, expressions of feelings, explaining etc. The use of these various pedagogical approaches gives students a variety of approaches to climate topics. Therefore, they can experience various aspects of this topic. Also in this process, not only science and music, but also art, Japanese language, social studies, geography learning are involved. Therefore, Fig. 1 of p 19 will need to be revised.

The fourth aspect is related to the lesson study mentioned in the third part. Although this covers lessons, it is difficult to say that it is a lesson study that is generally practiced

in Japan or other countries. Authors might want to reconsider the use of the term.

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