**RESPONSE LETTER**

Dear Editor Dr. Trivić and dear Reviewers,

thank you very much for your useful comments to upgrade our manuscript. We prepared responses to the reviewers’ comments (see Tables below) and the new text was added into the manuscript in blue writing, so that it will be easily to identified the revised parts of the manuscript.

1st reviewer

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| **Reviewers’ comment** | **Authors response** |
| Does the manuscript give appropriate credit to related recent publications? No | We have not come across any relevant literature about similar research problem. Therefore, the authors believe that this paper relevantly contributes to this area of research. |
| I think that some more details are needed about the concept of **attitudes** since there are two research questions on it. | We added some additional literature to explain some aspects of attitudes towards chemistry. Lines: 47-50, 57-75 |
| I suggest mentioning **more international literature** in general and especially when it comes about **misconceptions**. Here the focus is on Slovenian studies. | According to the reference list about 19 % (4 out of 21) of references concerning misconceptions are from Slovenian authors. However, we followed reviewers’ recommendations and added references from the international context to support the existing text. Lines: 89-101 |
| I think it is not clear why the research is done on **pre-service teachers.** This is not to be deduced from the theoretical background. I suggest some details about this. | The pre-service teachers were selected because, we believe that it is crucial to educate pre-service chemistry teachers into competent in-service teachers. In order to provide stimulating learning environment and educational process at the university level for prospective teachers, we need information about pre-service teachers’ believes and attitudes towards their future profession and also the insight into their understanding of how the triple nature of chemical concepts should be integrated into teaching of chemistry. We added the explanation to clarify these aspects. Lines: 140 - 146 |
| It is not clear why only Slovenia and Finland are participating this study. | We tried to explain the selection of the sample in the original MS. Lines: 146-158 |
| I suggest addition of a clarification in the part between line 179 and 185. It is telling that two researchers independently evaluated transcripts. In which language where those transcriptions? Thus, do the both researcher understand both languages? Or were the transcriptions in English? If so, how was the translation done? | To better explain this issue, we added additional text into the article, that clarified that questionnaires and students’ answers were in English in both counties. Lines: 190, 211, 212.  We designed the questionnaires in English as we estimated that master students are able to use English to express their attitudes in an adequate way. We also piloted some responses with additional explanations in both national languages and there were no significant differences in students’ answers in national language and in English. For that reason, we anticipated that answers in English could be valid enough for the analysis. But never the less, this is also a limitation of this study, because in same cases explanations in English for not native speakers could be a problem. For that reason, we added this into the conclusion where we discussed the limitations of the research. Lines: 494-499. |
| for better understanding of some results (like question 4) it would be good to know how much is this topic a focus in teacher education in both countries. I suggest addition of these information. | We added some information to explain previous students’ education in both countries about topics discuses in this manuscript in the Participant section. Lines: 175-184. |
| Results are good presented and match to the research questions. Some parts however are more theoretical background then results e.g. line 268-277. I suggest putting those sections in the first part of the manuscript or use it as a part of the discussion. | This section of the manuscript is defined as “Results and discussion” so we think that it makes sense to discuss our results in the context of findings from other sources – as it was done in the first version of the MS. |
| When it comes to the conclusion, there is only one part which is not really understandable. In line 445f it says “... take into account their enthusiasm for, interest in and …. While planning and implementing chemistry lessons”. I think that this needs more clarification. This conclusion is not really obvious from the results since it was not testes how they plan and implement (beliefs vs. practice). I suggest more clarification on this issue | Based on reviewers’ remark, we deleted the particular sentence from conclusions, because we agree that direct conclusions cannot be drawn from our results. |

2nd reviewer

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| Reviewers’ comment | Authors response |
| I have only one remark about the numeration of figures (please check the line 169 and line 383 in the text). | This was corrected. |

Sincerely yours,

Authors of the manuscript