**Responses to Reviewers**

**Manuscript’s Title:** Investigation of indoor and outdoor air quality at elementary schools in Hanoi, Vietnam

**Authors:** Hoang Anh Le, Vu Thi Quynh Linh

| ***No.*** | ***Reviewer’s comments*** | ***Answers/Responses*** |
| --- | --- | --- |
|  | In general, the authors should check again the sentences throughout the paper and use of proper English grammar and construction. Many sentences were difficult to understand. | Thank you. The MS is revised as your comments. |
|  | Introduction: The authors should make focus on the necessary of the study, emphasize on why the experiments were conducted in elementary schools in Hanoi and the purpose for this measurement | Thank you. Texts are added in MS revision to explain the purpose of this study. |
|  | Methodology should describe more detail. There are some unclear points or lack of information in the methods such as meteorological data (wind speed, humidity..), location of indoor sampling sites (first floor? Second floor? How far from sampling sites to traffic conjunction, market and so on…, how distance between measurement sensors? more detail information in the table 1 should be added. For examples, ELS 4, 6, 7 with the same site description but with different results of indoor and outdoor air quality, and then the authors could not explain their different results clearly. | The methodology is revised with added information. As describe in the Introduction part, this study focuses only on the relation of the air pollution level at outdoor and indoor (classroom) microenvironments.  The table 1 is added to give detail sampling parameters at each school.  The case of ELS (i.e. ELS 4, 6, 7) are the same site but there are many reasons leading to the differences of indoor and outdoor such as sampling sites, the distance of sampling sites to air pollution sources, wind direction which bring air pollutants from emission sources to sampling sites, etc. It is added to explain on revised MS. |
|  | The measurements were conducted for 1 hour but in the morning period or afternoon period, school- time or break- time? Which time period? Every sampling site should sample with the same time frame. And wind velocity is necessary to describe because it may relate to relationship between indoor and outdoor air quality | More information are added on the part 2 “Methodology”. |
|  | The measurement instrument should be calibrated before sampling. The authors should add more information on sensitivity of all measurement devices. | More information are added on the part 2 “Methodology”. |
|  | Data in Fig. 1, 2, 3 were average level in one hour? The authors need to describe. And how many values were measured in 1 hour? Authors should add more static data for Fig 1-3 and time-series of data to convince the conclusions about emission sources of in door air quality | Thank you. The Figures are revised in which the average value and error bars are added on those figures. |
|  | Some explanations in this manuscript were not clear to convince the conclusions | Thank you. It is revised on the MS. |
|  | The emission sources inside class of elementary school are limited, not like in house, office building. However, do teachers use chalk in the class, and how many students in one classroom where sensors located? These points need to consider for contribution to indoor air pollution in elementary school. | The table 1 is added to give detail on sampling parameters at each school. |
|  | Conclusions should more concise and clear | It is revised and improved on MS. |
|  | Other limitations can be seen in the manuscript in yellow text | Thank you. They are revised directly on the MS. |