Thank you for the chance to respond to these comments.

R1:

* **Many of the sentences were excessively long and complex**, making it hard to tease apart the major points being made.
* **The motivation for the study did not seem clearly articulated.**
* The conceptualization of engagement as having challenge and competence components in addition to cognitive, affective, and behavioral dimensions is an interesting one. **I would like more explanation on how challenge and competence aren't already encompassed by the cognitive dimension**.
* At times, **it seems like Emergent Motivation Theory is mixed with engagement, but motivation and engagement are related but different constructs**.
* **I suggest dropping RQ 4 for this paper, as it seems to be an extraneous analysis considering the population was so heavily URM.** I'm a bit torn as I feel like this might be better as separate papers.
* **There were several typos throughout that should be corrected**.

R2:

* **It is very confusing about the definition of work with data and its connection with engagement**.
* **The manuscript did not provide any review of literature on prior work related to engagement in work with data.**
* **The manuscript does not provide a sound rationale in setting up this study.**
* **The theoretical and empirical meanings of cognitive, behavioral, and affective engagements and also challenge and competence was mentioned by briefly and should be discussed in details and depth**.
* **Research questions 1 and 3 need to be reworded for clarity.**
* **Please remove the word "innovative" on page 15**.
* **The context needs to be described in main text instead of in an Appendix.**
* **The students were from 9 out-of-school STEM programs. Are they different programs? How can the study combine students from these programs considering the significant contribution of ESM is to situate research in specific contexts?**
* The demographics of 203 participants were atypical with majority being Hispanic and Black. Therefore, **the authors should carefully interpret their findings since their study sample does not represent the typical STEM population.**
* ESM data were collected 4 times a day for 2 days each week for week 2-4. Therefore, each student should receive 4x2x3=24 signals in total. First, 4 times a day signaling is quiet heavy considering they only spent around 3 hours per day. **Students would have received a signal every 40 minutes. What's the response rate? How many total events were captured? How were these events distributed among students and across time?**
* **How were the video processed for analyses?**
* **How were the units of analysis decided?**
* **What was the inter-rater reliability for the video coding?**
* **On page 18, please provide details on the use of maximum value measurement approach, instead of asking readers to read "Authors and colleagues (2018b) for more details".**
* **There is a lack of details in term of data preparation. Any data screening process included in this study? Any outliers or missing data?**
* **On page 22, no justification was provided for the reason why the LPA solution was selected. Why did you choose the six-profile solution? What are the fit indices and quantitative measures used to justify this choice?**
* **Although the authors mentioned that they used the different information criteria and a statistical test of the number of profiles in the data analysis section, no statistics was provided in the manuscript.**
* **Also, please report the number of episodes in each profile.**
* **Please provide more details regarding your model specification and fit statistics for the mixed effects, multi-level regressions.** **Was it a logistic regression? If so, what was your reference group? What was the R-square of each model?**