

Consequently, these findings provide a piece of vital evidence to show that helped of the reading companion robot can reduce the experienced cognitive load.

C. Qualitative Results

In addition to the quantitative experiments, we recorded all sessions and post-session interviews. The overall responses are aligned with our quantitative analysis. Examples of the participants recorded opinions are as follows:

“yes, I found it interesting, and I would like to have it. It is friendly and helped me to figure out the task... It motivates me to keep the workup, and I like this.”

“yes, It is nice and friendly and helpful...I would like to use it more. It helps me when I felt...I cannot solve the task. I like the way it praised me, awesome!”

“of course, I can use it, especially to solve my assignments. I am satisfied with the supports it showed to me! Yes, it motivated me like a friend. I like it.”

“Absolutely, I want to continue using it to see its potentials...it seems intelligent. Yes...yes. I am delighted. Indeed. I even smiled when it praised me. I think it knows how to motivate the students.”

IV. CONCLUSION

In this article, the design of a reading companion robot that supports readers was proposed. The designed robot incorporates a computational model of the functioning of the cognitive load, physical and software modules. In addition, the robot shows a clear, encouraging tool that can be helpful to be a digital sidekick during reading and solving challenging tasks. More specifically, we sought behavioral characteristics that imperative to design a reading companion robot such as likeability, perceived intelligence, and sociability. Moreover, the implementation of the proposed computational model could be extended in another domain, as it is a generic concept and can be plugged in with some minor alteration. Besides, it is expected that this work can stimulate the creation of other similar robotic systems that can aid humans in solving real-world problems.

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