The article that I read is “Formative Assessment of Programming Language Learning based on Peer Code Review: Implementation and Experience Report” by (Sun et al., 2019).Here, they designed a formative peer assessment approach based on the peer code review (PCR) model and implemented it in a programming learning course. Students anonymously reviewed the program/code written by their peers against the pre-agreed criteria. The criterion-referenced assessment type is used where an established standard/criteria are used as a tool to compare students learning. Ethical assessments practices are one of the principles of assessments where the students are not left embarrassed during the process of assessment. The anonymity of assessment work left this freedom to the author (students who wrote the code) and the reviewers. The peer assessment is reliable when there is positive outcome (motivation and interest) and fair assessment conducts. An arbitration for non-consensus on reported bugs/code implemented in the article covers the fair assessment conducts where if the author disagrees with the reported bug, they will initiate the appeal to the respective reviewer. The solving of non-consensus on reported bugs is extremely important to the reliability of peer assessment as it might cause an argument between the reviewer and the authors, ultimately causing distrust or chaos among the students. The article also implemented the dynamic reviewer appointment strategy according to student’s programming performance which suggests the higher-ranked student review programs written by lower-ranked students. Teachers review the program written by the highest-ranked students while the students of equal rank review each other’s work. These aspects supported diverse learners and allowed students to demonstrate their abilities ultimately resulting in incorporating assessment accommodation.

In my module, I have implemented peer-assessment whereby the students were asked to give reviews of the work shown by their friends. For example, asking the students whether the program/code written by their friends will give the intended output or not in the classroom. Since I have allowed the open code review in the classroom, I feel I have not incorporated the anonymity of the reviewer which might have led to anger and frustration by the author. Regarding the code appeal by the students, I did a similar kind of implementation whereby if the author isn’t satisfied with the feedback acknowledged by the reviewer, he/she can invite justification/clarification. Mutually, they tried to solve their disagreement and if both aren’t sure of the solution, I as a teacher intervene in the process to evaluate the effectiveness and provide relevant feedback. This aspect helped all the involved students and teachers to enhance the learning. One of the factors of peer assessment is the dynamic reviewer appointment strategy where the abilities of the students are studied and based upon their ability, we can initiate the peer assessments. I did not implement this strategy instead I would randomly pick the name or roll number of the student to give feedback of their friend’s code/program regardless of their ability. In doing so, I haven’t considered the weaker students who otherwise won’t be confident to give feedback to their peer’s work.

# Bibliography

Sun, Q., Wu, J., Rong, W., & Liu, W. (2019). Formative assessment of programming language learning based on peer code review: Implementation and experience report. *Tsinghua Science and Technology*, *24*(4), 423–434.