**Feedback in Context**: Using a Code Review Tool for Program Grading

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Providing efficient and really helpful feedback in programming is a challenging task. This study presents the innovative application of a code review tool, created to enhance the grading process of programming assignments. The *motivation* behind this approach is to improve traditional summative feedback by providing students with informative feedback directly linked to specific segments of their code. This method offers a better context of the feedback, making it easier for students to understand from where the suggestions are coming in order to know how to apply them in the future in order to improve their coding skills.

The novel aspect of this tool is to deliver feedback in a rubric that is specifically linked to the associated code. It is a professional code review extension for Visual Studio Code for educational purposes, an open-source addition with minimal setup. This gives the user a tool designed particularly for working with program code, can be used without committing to a specific learning environment, and is freely available for use with any programming language.

The tool's effectiveness was validated through a survey of students including sophomores, juniors, and seniors, in an upper-level algorithms and data structures course. The main factors used in the evaluation were: functionality, correct data structure, and algorithm implementation. Program design, code quality including commenting, correct dynamic memory management, and efficiency are also being considered. The strongly positive response indicates that this approach improved students' perceptions of the feedback's helpfulness compared to previous experiences. Students appreciated the contextual feedback provided by the instructor on their code, which helped them understand and learn from their mistakes. This method proved more effective in guiding students to become better programmers by focusing on detailed, constructive criticism directly linked to their work instead of generic feedback.