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The mathematics portfolio: an alternative tool to evaluate students' progress.

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Summary: This article describes the need for more thorough and varied forms of assessment to evaluate students' level of understanding in mathematics. Portfolios are one type of assessment tool that, when added to a teacher's repertoire can improve students' comprehension and retention and enable students to monitor their own progress and to take more responsibility for their own learning. Portfolio assignments can also help students and teachers to detect and remedy weaknesses and misunderstandings and can increase students' self-confidence in mathematics. This article discusses what a portfolio is, gives an example of a unit portfolio used in an undergraduate finite mathematics course to assess students understanding of Venn diagrams, describes the benefits and challenges of using unit portfolios, and discusses how teachers can evaluate portfolios with a rubric. By providing practical advice, this article can be used as a framework for teachers who have the desire to incorporate portfolio assignments, in addition to more traditional tools of assessment, at the undergraduate or K-12 grade levels.

Classification: D60 D40

Keywords: educational diagnosis; achievement measurement; analysis of learning outcomes; assessment tool; unit portfolio assignments; rubric; grading; student presentations; student activities; instructional modes; independent work; open-ended problems; mathematical language; writing in the mathematics classroom; Venn diagrams

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