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Solving equations: A make-work project for math teachers

The purpose of this session is to share, with the members of the Canadian Mathematical Society, the satirical view I have towards solving equations in the math classroom and, further, explain why I share this view with my students (prospective elementary and secondary school math teachers) each semester. Essentially, I contend (satirically) that solving equations in the math classroom is a make-work project for math teachers. For example, math teachers take a predetermined value (e.g., 2) which makes a statement ($x=2$) true and then make it harder ($x+1=2+1$) and harder ($x+1=3$) and harder ($3(x+1)=3(3)$) and harder ($3x+3=9$) for their students to determine the value that makes the statement true. However, and worthy of note, they do so with the explicit purpose of then teaching their students how to 'unmask' the solution that they themselves have 'masked'. Stated in make-work project parlance, the math teacher digs a hole with the explicit purpose of teaching students how to fill the hole they dug. Having prospective math teachers (1) recognize that no matter what type of hole they encounter (i.e., linear, quadratic, exponential, logarithmic or trigonometric equations or equations involving radicals, absolute values or fractions) the process for filling the hole is always the same (i.e., to solve an equation is to determine the value(s) that makes the statement true) and (2) dig a few holes of their own, I argue, helps them better appreciate mathematics and its numerous connections at the primary, middle and secondary school levels.