# Panel on curriculum and teacher education in light of the Common Core – comments from curriculum developers

Zalman Usiskin

Andy Isaacs

University of Chicago

Paul Goldenberg

EDC

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# CCSS-M SMP 2:
# Reason abstractly and quantitatively.

- Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

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# CCSS-M SMP 4:
# Model with mathematics.

- Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. … They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose. .

# EM Goals for Mathematical Practice

2.1 Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.

2.2 Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.