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Prospective elementary mathematics teacher content knowledge: what do we know, what do we not know, and where do we go?

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Summary: In this special issue, the authors reviewed 112 research studies from 1978 to 2012 on prospective elementary teachers' content knowledge in five content areas: whole numbers and operations, fractions, decimals, geometry and measurement, and algebra. Looking across these studies, this final paper identifies the trends and common themes in terms of the counts and types of studies and commonalities among findings. Analyses of the counts show that the number of articles published each year focusing on prospective teacher (PT) content knowledge is increasing. Most articles across the content areas show that PTs tend to rely on procedures rather than concepts. However, the focus of most articles is identifying PTs' misconceptions rather than understanding PTs' conceptions and the development thereof. Both the limitations of the reviews and the directions for future research studies are elaborated.

Classification: D39 B50

Keywords: subject content knowledge; preservice teacher education; primary education; research; state of the art; bibliographies; integers; arithmetic operations; fractions; decimal numbers; elementary geometry; measurement; propaedeutics; elementary algebra; functions; teacher characteristics

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