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An alternate route to the reification of function.

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This paper presents an alternate perspective for utilizing the action/process/object framework when discussing student development of conceptions of function. After a review of related theories, a property-oriented view of function is described which is based on visual aspects of functional growth. The theory is supported with data on student learning. The property-oriented view of function incorporates and extends previously described frameworks used in analyzing functional understandings, including the covariance and correspondence view (Confrey & Smith, 1991; Thompson, 1994). The property-oriented view differs from the covariance view in that less emphasis is placed on the manner in which the variables are changing and more emphasis is placed on the properties that result from these changes. The property-oriented view differs from a correspondence view in that functional properties such as invertibility and domain give rise to a different kind of thinking about functions than do properties such as symmetry, linearity, continuity, etc. Implications for further research and curriculum development are also provided. (Abstract)

Classification: C34

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