Prospective K-8 Teachers Inductive Reasoning in the Context of Pattern-Related Problems

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INTRODUCTION
* Algebraic concepts are integral to K-8 mathematics curriculum (NCTM, 2000).
* Inductive reasoning (reasoning from specific premises to a general rule) is an important way of mathematical thinking.
* K-8 mathematic teachers need to foster inductive reasoning in their students.

RESEARCH GOALS
To characterize pre-service K-8 teachers inductive reasoning activities in the context of pattern-finding problems

METHOD
* 17 K-8 pre-service teachers (PST)
* 130 written solutions to pattern finding tasks

Figure 1 below shows one of the assignments used. All other assignments were very similar to this one.

RESULTS
* Pattern finding activities identified as connecting were significantly more frequent than those identified as extending. (z=7.416, p<0.05)
* Recursive and explicit generalizations were observed with similar frequencies. (z=0.959, p<0.05 (not significant))

REFERENCES

ACKNOWLEDGEMENTS
• MSCS & NSF REU
• Drs K. Factor & D. Brylow, REU Directors
• Dr. M. Magiera, Research Mentor