



RICE UNIVERSITY
SCHOOL MATHEMATICS PROJECT

Techniques that Support Novice and Struggling Mathematics Teachers

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RICE UNIVERSITY
SCHOOL MATHEMATICS PROJECT

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In your experience, what are the greatest needs of novice and struggling mathematics teachers?

In your experience, what techniques have you found to be most successful in helping novice and struggling mathematics teachers?



What do novice and struggling mathematics teachers need?

Knowledge for
Teaching

Skills for
Managing
Instruction

Skills for
Developing
Collaborative
Relationships



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Knowledge for Teaching

Novice and struggling mathematics teachers need help:

- collaboratively planning engaging lessons that incorporate effective pedagogical practices to develop mathematics content;
- presenting applications for mathematics concepts; and
- considering students' prior conceptions about mathematics when planning curriculum and instruction.



What do novice and struggling mathematics teachers need?

Knowledge for Teaching

Skills for Managing Instruction

Skills for Developing Collaborative Relationships



Skills for Managing Instruction

Novice and struggling mathematics teachers need help:

- using cooperative learning groups;
- using hands-on activities to develop mathematics concepts;
- managing a class of students who are using manipulatives;



Skills for Managing Instruction

Novice and struggling mathematics teachers need help:

- using technology as an integral part of mathematics instruction; and
- using strategies which incorporate innovative and emerging formative and summative assessment techniques.



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Skills for Developing Collaborative Relationships

Novice and struggling teachers need help developing collaborative relationships with:

- fellow teachers,
- administrators,
- parents,
- the local community, and
- the greater mathematics community.



What do novice and struggling mathematics teachers need?

Knowledge for Teaching

Skills for Managing Instruction

Skills for Developing Collaborative Relationships



Expert Teachers



Techniques that Support Novice and Struggling Mathematics Teachers

1. Provide them with a reasonable schedule and manageable class sizes.
2. Integrate them into the school culture and into communities of practice.
3. Assign them appropriate mentors.
4. Help them understand the school curriculum and assessment schedule.



Techniques that Support Novice and Struggling Mathematics Teachers

5. Assist them in collaboratively planning student-centered lessons.
6. Assist them in establishing classrooms that actively engage students.
7. Help them develop communication skills to successfully interact with others.



Techniques that Support Novice and Struggling Mathematics Teachers

8. Provide support for them in their classrooms (observe, coach, model teach, co-teach).
9. Help them join the greater mathematics and mathematics education community.
10. Develop their self-efficacy by providing them with leadership opportunities.



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Registration is now open for the 2016 RUSMP Summer Campus Program (SCP). The SCP is a three-week professional development program in mathematics content and pedagogy for grades 1-12 teachers.

RUSMP is also excited to announce that registration for the first course in the RUSMP Spring course series is also open. *Making Sense of Fractions* is being offered for grades 3-5 teachers.

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