Beyond Self-Contained Classrooms:
Models of Elementary Content Specialization

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Elementary Content Specialization

ECS: What is it?
Elementary Content Specialization

• ECS: Elementary organizational structures in which full-time classroom teachers instruct two or more classes of students in mathematics (or another content area)

• Elementary Mathematics Specialist (EMS)
Elementary Mathematics Specialists (EMS)

- Coach
- Teacher
- Intervention Specialist
- Combinations of the above
Elementary Content Specialization

Discuss:

• What models of ECS (not coaching, or even partial coaching) are you aware of through your own work or anecdotal evidence?

• What benefits and challenges do you think are associated with these models of ECS?
Every Day Every Child: A Partnership for Research with Elementary Math and Science Instructional Specialists

Co-PIs:
Ruth Parker, Mathematics Education Collaborative
Chris Ohana, Western Washington University
Research Questions

• What ECS models are being implemented in elementary classrooms for math and science at participating school districts? What characteristics define these models?

• How do characteristics related to math and science content specialization compare with self-contained models?
Self-Contained Classrooms

Teachers are:

• Responsible for instruction in all core content areas
• Have one classroom of students
• With their students all day, with the exception of specials and other notable breaks (e.g., lunch, recess)
ECS Models

Team Teaching
- Within-grade
  - Model A
  - Model B
  - Model C
  - Model D
- Between-grade
  - Model E

Science as a Special
- Model F
Sample of EMS and ESS

34 EMS and ESS, including 9 double participants:

- Primary (grades 1-2): 8.8%
- Intermediate (grades 3-5, or 4-6): 85.3%
- Between grade levels, primary and intermediate: 5.9%
Within-grade Team Teaching Models

Model A

- Team of 2 teachers
- 2 classes of students shared
- Specialization in 1 content area
- Students move to the other classroom for instruction in reading or science
Within-grade Team Teaching Models

Model B

• Team of 2 teachers
• 2 classes of students shared
• Specialization in 2 content areas
• Students move to the other classroom for instruction in 2 content areas

Dual Language Program (Gomez and Gomez)
Within-grades Team Teaching Models

Model C

- Team of 3 teachers
- 3 classes of students shared
- Specialization in 1 content area
- Students move to two other classrooms for instruction in 2 content areas
- EMS specialize in math, but teach minimal additional content to “homeroom” students
Within-grades Team Teaching Models

Model D

• Team of 3 teachers
• 3 classes of students shared
• Specialization in 1 content area
• Students move to two other classrooms for instruction in 2 content areas
• Note: Science/Social Studies combination
Between-grades Team Teaching

Model E

- Team of 2-3 teachers
- 2-3 classes of students shared
- Teachers prepare for 2-4 unique classes each day, although there are shared content areas
- Students move to 1-2 other classrooms for instruction in other content areas
Science as a Special

Model F

• 4-14 classes of students
• Science teachers see students for 3 sessions per week
If it’s all team teaching, so what?

Different organizational structures for ECS afford different opportunities, and challenges. The opportunities and challenges may impact both teachers’ practice and students’ learning.
Factors Related to ECS

- Number of Content Areas
- Number of “Preps”
- Potential Number of Transitions between Classrooms
- Number of Students
Content Areas and Preps
• Almost the same, with the exception of E and F
• Impacts on teachers’ abilities to:
  – Plan and implement quality instruction
  – Know and teach to standards
  – Develop and investigate resources
Cole: We’re always asked to go a mile wide and teach so many standards. At one time I was teaching fifth grade there were 122 standards the kids had to be able to do. I always felt like if I could focus on certain content that I could teach it better without having to deal with all the other content areas that I taught.
## Planning Time

<table>
<thead>
<tr>
<th></th>
<th>EMS $M$</th>
<th>Self-Contained $M$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minutes spent planning for math instruction per week</td>
<td>270*</td>
<td>159*</td>
</tr>
<tr>
<td>Minutes of common planning time with other math teachers per week‡</td>
<td>21*</td>
<td>75*</td>
</tr>
<tr>
<td>Minutes of after-school instructional planning with other math teachers per week</td>
<td>23</td>
<td>28</td>
</tr>
</tbody>
</table>

‡ Shift in the nature of the collaboration
## Planning Time

<table>
<thead>
<tr>
<th>Item</th>
<th>EMS $M$</th>
<th>Self-Contained $M$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have enough time to plan for all of the subjects I teach.</td>
<td>2.92*</td>
<td>1.41*</td>
</tr>
<tr>
<td>I have enough time to plan for my math instruction.</td>
<td>3.25*</td>
<td>2.34*</td>
</tr>
<tr>
<td>I have enough time to investigate available math instructional materials beyond what my district has provided.</td>
<td>2.21</td>
<td>1.65</td>
</tr>
<tr>
<td>I have enough time to meet with other teachers about math instruction.</td>
<td>2.83</td>
<td>2.94</td>
</tr>
</tbody>
</table>
Leah: And I think the specialist model – especially for intermediate – because there’s so many things that teachers have to know really deeply that making change is hard when you’re trying to make change in so many different subject areas.
Potential Issue: Increased transitions between classrooms has a negative impact on instructional time.
# Transitions and Time in Instruction

<table>
<thead>
<tr>
<th></th>
<th>ECS $M$</th>
<th>Self-Contained $M$</th>
<th>$M$ by ECS Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Total minutes of between-classroom</td>
<td>27</td>
<td>29</td>
<td>24.0</td>
</tr>
<tr>
<td>transition time per day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total minutes of within-classroom</td>
<td>11</td>
<td>15</td>
<td>11.7</td>
</tr>
<tr>
<td>transition time per day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minutes spent per class of students</td>
<td>361</td>
<td>331</td>
<td>326.7</td>
</tr>
<tr>
<td>in mathematics instruction per week</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Number of Students

Potential Issues:

• Knowing the “whole child” (Heathers, 1961)
• Meeting the social and emotional needs of elementary students
• Developmental appropriateness
Number of Students

One significant difference:

- I know the strengths and weaknesses of each of my students in English Language Arts.
  - EMS Mean: 4.13
  - Self-Contained Mean: 5.41

Model F (Science as a Special)
Instead….

Amy: There’s three of us on the team. I think that’s helpful for students that maybe don’t necessarily bond with the one teacher…. If there’s something going on, sometimes they feel safer with one teacher over the other to talk to them it seems.

Melia: There’s been students we’ve been concerned about – not just academically but really concerned about their behavior, not they’re active and disruptive but more like socially concerned and then we’ve been able…are you seeing this in your classroom as well?… I can think of three students that we have all had a pulse on much more this year in the first three months of school that I think we’ve been connected with.
Continua of Factors Related to ECS

- No. of Content Areas:
  - D, F
  - B, C, E
  - A
  - Self-Contained

- No. of “Preps”:
  - D
  - B, C
  - A, E, F
  - Self-Contained

- Potential No. of Transitions between Classrooms:
  - Self-Contained
  - A, F
  - B, E
  - C, D

- No. of Students*:
  - Self-Contained
  - A, B
  - C, D
  - F
Ongoing Research

• Differences between EMS and Self-Contained teachers
  – Content Knowledge
  – Professional Development
  – Classroom Instruction

• Impact on Student Achievement

• Nationwide Survey of Elementary Principals
Questions?
Implications....

The teachers we have studied are EMS, but not often considered EMS.

• How might we re-envision teacher preparation programs to prepare preservice teachers for EMS roles such as these? Is modification necessary? Or might our efforts be better focused on inservice teachers?

• How might we use the results of this work to inform our work with EMS certification or licensure programs?
Thank you!

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References & Resources


