Personalized Learning in High Schools: Evidence from Nationally Representative Surveys

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Today's Talk

1. What is personalized learning?
2. Study Background and Methods
3. Survey Results
4. Implications
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1. What is personalized learning?
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Personalized Learning attempts to provide more individualized instruction to every student, and, in theory, help teachers solve the problem of how to effectively differentiate for every student.

As a quick way of describing the vision for PL, the idea is that instruction is focused on individual student needs and goals, instruction targets students at their learning level and pace is driven by mastery of material. In contrast, we generally think of students in typical classrooms progressing as an age-graded cohort in a way that’s less driven by individual needs.

However, although we talk about typical classrooms as a way of describing PL practices, in reality PL practices – tutoring, small group instruction, use of personal learning plans – have always been used.

The theoretical rationale for personalized learning is that it recognizes that teachers face a diversity of student interests and prior achievement levels among their students, and practices to differentiate instruction within a traditional classroom haven’t always been effective and are challenging to implement.
PL hopes to leverage approaches like tutoring – which research (e.g., Bloom) suggests can be an effective strategy for promoting learning for all students.
There are several common elements of personalized learning

- Learner Profiles: Rich and up-to-date records of student strengths, needs, goals, and progress accessible to educators, students, and families.
- Personal Learning Paths: Appropriate and meaningful choices of material for each student to work on, with the necessary adult supports.
- Mastery-Based Progression: Enables personalized paths to run their natural course by removing external constraints on what material each student works on, when, and for how long.
- Focus on a Broad Range of Student Outcomes: Academic achievement, socio-emotional skills, relationships with adults and community, preparation for career/college.

There is little evidence about whether personalized learning schools are different than schools nationally:

- PL is a term that means lots of different things to lots of different people. This is a good thing because it allows schools to develop customized models that fit their local context.
- Often, PL is conceptualized as a whole-school model, in which a school adopts a set of common strategies.
- However, PL strategies can also be adopted by individual teachers in their classrooms without the benefit of a comprehensive school model.
- One way to define PL is described here, and includes these three strategies, and focuses on a broad range of student outcomes.
- Although it’s good that there are many different ways to implement PL it also makes PL difficult to define, measure, and study. And, it’s difficult to tell whether practices labeled as “personalized” are truly individualized to each student, or whether they are not that different from practices teachers have used for decades.
- There isn’t much evidence on this – the extent to which PL schools are doing something different than schools that don’t label themselves as PL.
- At RAND, our team has conducted surveys of PL schools, and schools nationally, for about 5 years. These surveys have focused on teachers’ use of PL strategies and instructional practices generally related to learner profiles, personal learning paths, mastery-based progression, and focus on students’ socioemotional skills.
• When we conducted national surveys in 2014-15 and found that practices in PL schools aren’t all that different than in schools nationally. A more-recent study by CRPE found some differences between PL schools and schools nationally, and with this study we hope to expand on that work.
• Today we’ll focus on teachers’ survey responses to questions about instructional strategies and practices related to personalization and mastery (also called competency)-based progression
Today's Talk

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2. Study Background and Methods
3. Survey Results
4. Implications
The study that I’m going to be talking about today is part of RAND’s ongoing research on PL. Our team has been collecting data from a variety of PL schools over the past 5 years. The national sample was weighted to be nationally representative, and as such captures what’s happening in high schools across the US. Response rate was 59% (1009/1721).

In addition to these surveys of teachers we also surveyed students and school leaders in the PL schools. Response rate was 81% (189/234)
We also conducted school visits that included interviews, focus groups, classroom observations and artifacts.

This presentation focuses on the most recent round of teacher survey data collected in spring 2018
Of course, a key limitation is that survey data are self report.
differences in item means. Throughout this talk we’ll note statistical significance, but it wasn’t our only guide, and we present material that’s substantively interesting as well as that which is statistically significant.

If needed – samples were similar in that most of the teachers taught in the four core subjects (math, ELA, science and social studies) and all were in grades 9-12.

Teachers in the national sample were more experienced teachers than those in the PL sample – about 16 years of experience, on average, compared to about 9 years in the sample of PL teachers.
Today's Talk

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3. Survey Results
4. Implications
Teachers in personalized learning sample reported greater receipt and use of data to inform mastery than teachers nationally

### More-Frequent Receipt of Data
Teachers reported receiving the following data at least monthly

<table>
<thead>
<tr>
<th></th>
<th>% PL</th>
<th>% National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student performance on specific concepts or skills*</td>
<td>64</td>
<td>36</td>
</tr>
<tr>
<td>Specific students who need extra assistance*</td>
<td>69</td>
<td>40</td>
</tr>
<tr>
<td>Specific students who have achieved mastery*</td>
<td>62</td>
<td>28</td>
</tr>
</tbody>
</table>

### Use of Data to Inform Mastery
Teachers reported using student mastery data for these purposes to a large or moderate extent

<table>
<thead>
<tr>
<th></th>
<th>% PL</th>
<th>% National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow students to skip units or lessons if they've demonstrated mastery in some other way*</td>
<td>40</td>
<td>18</td>
</tr>
<tr>
<td>Assign or reassign students to groups in my class(es)*</td>
<td>69</td>
<td>42</td>
</tr>
<tr>
<td>Recommend students for extended learning opportunities*</td>
<td>49</td>
<td>26</td>
</tr>
</tbody>
</table>

*indicates differences in item means are statistically significant at p<0.001

Differences in item means are statistically significant at p<0.001

Majorities of PL teachers receive these data about monthly to a few times per month, whereas ATP teachers receive it yearly to a few times per year

PL teachers reported using student achievement or mastery data for these purposes to a large or moderate extent. Teachers nationally reported rarely used student data for these purposes.

We also found that teachers in PL schools have higher opinions of their data systems – that they produce the data they need to meet students’ needs, that they are easy to use, and provide real-time data that are actionable.
Teachers in personalized learning sample reported greater use of several mastery-based practices than teachers in the national sample

Data Analysis

<table>
<thead>
<tr>
<th>Percent of Teachers Reporting Using Mastery-based Practices to a Moderate or Large Extent</th>
<th>Teachers</th>
<th>Teachers Nationally</th>
</tr>
</thead>
<tbody>
<tr>
<td>76</td>
<td>Different students work on different topics or skills at the same time*</td>
<td>43</td>
</tr>
<tr>
<td>82</td>
<td>I give students the chance to work through instructional material at a faster or slower pace than other students in this class*</td>
<td>59</td>
</tr>
<tr>
<td>69</td>
<td>I frequently regroup students for instruction to address changing learning needs and interests*</td>
<td>52</td>
</tr>
<tr>
<td>62</td>
<td>I require students to demonstrate mastery of a topic before they can move onto a new topic*</td>
<td>42</td>
</tr>
</tbody>
</table>

*indicates differences in item means are statistically significant at p<0.001

Differences in item means are statistically significant at p<0.001

In addition, we also found that teachers provided more individualized supports to students when they didn’t perform well on a task or assignment. These supports included placing students in groups to receive support on learning the content or skill, working step-by-step with students as they revised or worked on a similar task, and providing students with models of finished work.
Majorities of teachers in both samples reported extensive use of several personalized pathway practices, although teachers in the PL sample reported using these practices to a greater extent than teachers nationally.

### Percent of Teachers Reporting Using Personal Pathway Practices to a Moderate or Large Extent

<table>
<thead>
<tr>
<th>Practice</th>
<th>Teachers</th>
<th>Teachers Nationally</th>
</tr>
</thead>
<tbody>
<tr>
<td>I frequently adapt course content to meet students’ needs by providing additional assignments, resources, and activities for remediation or enrichment*</td>
<td>84</td>
<td>63</td>
</tr>
<tr>
<td>Students have opportunities to review or practice new material until they fully understand it*</td>
<td>85</td>
<td>68</td>
</tr>
<tr>
<td>I provide a variety of materials or instructional approaches to accommodate individual needs and interests*</td>
<td>86</td>
<td>76</td>
</tr>
</tbody>
</table>

*indicates differences in item means are statistically significant at p<0.01

Differences in item means are statistically significant at p<0.01
Teachers in personalized learning sample developed more of their own curriculum materials, and those materials supported mastery-based instruction

PL teachers reported developing more than half of their own curriculum materials, national teachers less than half

PL teachers spent 1-2 more hours per week developing curriculum materials than national teachers

PL teachers were more likely to report that their curricula supported mastery-based instruction

PL teachers reported averaging 5-6 hours per week developing their own curriculum materials; teachers nationally reported spending an average of 3-4 hours per week.

We saw a wide variety of curriculum materials in use when we visited the PL schools – we saw traditional textbooks and printed materials, computers and other forms of tech used as instructional tools to both deliver content and practice skills and concepts. We saw students doing everything from taking notes on powerpoint slides to watching videos individually or in groups, to long-term projects to worksheets.

Perceptions of curriculum materials were similar between the two groups in terms of quality, preparation for college and career readiness, ability to address students’ learning needs, and accessibility outside the classroom. However, PL teachers were slightly more likely to agree that their curriculum materials supported mastery-based instruction. 27% of PL teachers strongly agreed, compared to 18% of teachers nationally, significant at p<0.05
Teachers’ perceptions of curriculum materials were similar across the two samples

<table>
<thead>
<tr>
<th>Agree or Strongly Agree</th>
<th>% PL</th>
<th>% National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribute to my efforts to promote college and career readiness</td>
<td>80</td>
<td>77</td>
</tr>
<tr>
<td>Are of high quality</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>Are accessible to students outside of the school building and school day</td>
<td>72</td>
<td>77</td>
</tr>
<tr>
<td>Address the learning needs of all of my students</td>
<td>69</td>
<td>78</td>
</tr>
</tbody>
</table>

Teachers’ perceptions of curriculum materials are very positive in both samples. In addition, we looked at how frequently teachers use certain tasks, and didn’t see differences – PL schools and schools nationally are already using a variety of tasks, including tasks to practice skill development and projects/tasks with real-world applications, frequently.

None of these differences are significant (item means).
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Summary and Implications

- Differences between PL teachers and teachers nationally have taken time to emerge – we should follow PL schools over time to see how the approach matures.

- PL teachers reported developing most of their own curriculum materials and taking lots of time to do so – this suggests a need for supports in this area.

- Additional data sources are needed to understand the content and quality of instruction.

- If we want to promote higher-quality PL implantation we need to look at all types of schools, not just those adopting an explicit PL initiative.

As a quick summary, we found that teachers in PL schools report more-extensive adoption of some mastery-based and personalized pathway practices than teachers in the national sample.

This is different than what we found in our previous survey efforts, when we didn’t see many differences between national and PL teachers.

1st bullet
- In our earlier surveys, from 3-4 years ago, we didn’t find meaningful differences between the survey responses of teachers in PL schools and those in schools nationally (Continued Progress and Informing Progress). Now, we and others (CRPE, PL At A Crossroads) see some differences. This suggests that it might take time for schools to implement these practices intensively, and for differences to emerge on survey measures.

3rd bullet
- We are collecting qualitative data – interviews, observations, focus groups, to explore this in more detail.
4th bullet
- These survey results suggest that we are starting to see real differences between PL teachers’ practices and practices of teachers nationally, but many PL practices are also used by majorities of teachers nationally. We need to examine both types of schools to better understand what the differences are, and promote high-quality implementation.
Thank you

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