Theoritical Framework

Self Determination Theory and Basic Psychological Needs

Intrinsic Motivation
Internally driven by enjoyment of a task or activity; alignment with personal interests and satisfaction

Competence
Need to feel effective and capable during a particular activity or challenge

Relationalness
Need to feel connected with others in their learning community

Autonomy
Need to have a sense of choice and control over their actions/learning

Intrinsic motivation is driven by personal interest, satisfaction and/or enjoyment with task or activity (Ryan & Deci, 2000; 2017)

Teachers will be more motivated to learn about NGSS and 3-dimensional science when strategies align with their goals/interests; belief that practices will positively impact student learning

Competence: feeling effective and capable during particular activity or given a specific challenge (not objective measure)

Relationalness: desire to feel connected with others in the learning community

Autonomy: volition / agency over one’s approach to learning

Method

Data

Observational and interview data from formal PD sessions:
- Audio/video recordings, 70 hours of formal PD: 7 days, 3 grade-level cohorts
- 32 teacher interviews + open-ended responses from 3 PD feedback surveys

Analysis

- Multiple rounds of qualitative coding with three research team members (Maxwell, 2013; Saldana, 2012)
- Unit of analysis: facilitator moves, interactions between facilitators and teachers (unit of analysis)
- Organizational and theoretical categories based on SDT basic needs framework

Select Results

<table>
<thead>
<tr>
<th>PD Facilitator Moves</th>
<th>Change Total</th>
<th>Teacher Perspectives on PD</th>
<th>Expect Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active learning opportunities</td>
<td>152</td>
<td>120 (SD: 12)</td>
<td></td>
</tr>
<tr>
<td>Providing resources, tangible resources</td>
<td>151</td>
<td>92 (SD: 24)</td>
<td></td>
</tr>
<tr>
<td>Treating teachers as respected professionals</td>
<td>146</td>
<td>83 (SD: 28)</td>
<td></td>
</tr>
<tr>
<td>Supporting teachers in making sense of new ideas, pedagogies (competence)</td>
<td>144</td>
<td>94 (SD: 29)</td>
<td></td>
</tr>
<tr>
<td>Providing teachers with tangible resources that are accessible and relevant to students (relatedness)</td>
<td>140</td>
<td>93 (SD: 28)</td>
<td></td>
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<tr>
<td>Encouraging teachers’ sense of agency to implement new strategies from PD in their own classrooms to best meet their students needs (autonomy)</td>
<td>136</td>
<td>89 (SD: 23)</td>
<td></td>
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Discussion & Implications

Motivation is a well-established part of learning process, ownership and internalization of new ideas and strategies
- SDT and Basic Needs affords a new way of looking at teacher PD
- Moving beyond structural components of PD to consider what is happening in this learning environment (processes, underlying mechanisms) and how teachers are experiencing the PD is important to understanding teachers’ motivation as learners
- Examining teacher motivation can shed new light on how and why teachers engage in learning and in turn implement new practices in their classroom

PD facilitators have an important role to play in supporting teachers’ motivation as learners and meeting basic needs
- Positioning teachers as both learners and experts in PD community (competence)
- Providing teachers with tangible resources that are accessible and relevant to students (relatedness)
- Building community and relationships by recognizing teachers’ classroom and school context (relatedness)
- Treating teachers as respected professionals by leading with humility, positivity and humor (relatedness)
- Creating space and dedicated time for teacher-led discourse and making sense of new ideas, pedagogies (autonomy)

Acknowledgements

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