

Translating educational research into practice: A cross-institutional telephone game?

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A perennial challenge facing education – and public policy, generally – lies with bridging the divide between research and practice (Gersten & Brengelman, 1996). The difficulties presented by translating, framing and packaging empirical research in a way that is understandable, useful and relevant for practitioners manifest across institutional boundaries; researchers often lament the apparent impermeability of practice in local schools and districts, while practitioners question studies that seem obscure and impenetrable, and findings that speak to generalities without deference to the critical challenges faced by educators within diverse state and local contexts. Between these lines lies a conceptual “no-man’s land” in which the lack of communication and clarity may, in many cases, stymie the advance of genuinely helpful knowledge from the world of research, as well as critical insights and understandings from practitioners on the ground (Honig & Coburn, 2008; Levin, Sá, Cooper, & Mascarenhas, 2009; Shankland et al., 2010; Taylor-Powell & Boyd, 2008).

One approach to tightening the link between research and practice has been to develop collaborative partnerships that span the divide between research institutions, state and local school systems, and other intermediary actors operating within the field of education (Corcoran, Fuhrman, & Belcher, 2001; Honig & Coburn, 2008; Shanklan et al., 2010). One such partnership is the National Center for Scaling Up Effective Schools (NCSU), a 5-year center funded by the Institute for Education Sciences. NCSU’s work focuses on bringing together researchers, practitioners and developers of professional development, and engaging them in the task of identifying, developing, adapting and scaling practices that hold significant promise for improving educational outcomes for at-risk student groups. The challenge of bridging the gap between research and practice through partnership lies at the heart of this work.

NCSU was initiated in the 2010-2011 academic year; in that year, Center research teams engaged in constructing rigorous case studies of higher- and lower-performing high schools in two large, urban school districts in Texas and Florida. Through interviews, focus-groups, classroom observations and student shadowing, the research teams identified a set of findings in each district which became the foundation for a design challenge in each context. In Florida, this design challenge focused on *Personalization for Academic and Socio-emotional Learning* (PASL). Afterward, in partnership with the Education Development Center (EDC), researchers worked to transfer this design challenge to a team of teachers, administrators, counselors and other staff in each district, and to facilitate their work as they, in turn, translated what they learned into an innovation concept design that would be implemented in a new set of schools.

While cross-institutional partnerships – like NCSU’s – hold tremendous potential for applying the talents of different stakeholders to problems of educational practice, they also raise their own brand of challenges to the process of translation and transmission of knowledge between partners. This paper unpacks this process – of translating research findings for consumption by both developer and practitioner partners, facilitating the transmission of those translated findings across institutional boundaries, and, ultimately, re-translating those findings into practices for implementation – as it unfolded in the NCSU’s Floridian partner district: Broward County Public Schools (BCPS).

Through content analysis of comprehensive audio recordings of the team’s work, field notes, artifacts, and interviews, we seek to answer a few key research questions:

1. How did the partners in the BCPS work define their understanding of the National Center on Scaling Up Effective Schools' research findings around PASL, and how did those understandings shift over time?
2. What institutional factors, organizational factors, and elements of the district's policy context mediate this process of translation of PASL for each of our partner groups and – ultimately – each group's understanding of the National Center on Scaling Up Effective Schools' findings over time?

Conceptual Framework

Research suggests a multitude of factors that complicate the process of translating research into practice – particularly when the process of doing so occurs within the context of cross-institutional partnership. First, researchers, intermediary actors, and practitioners hail from different institutional and organizational settings, each founded on perspectives and assumptions that vary in many ways, such as their norms and rules of practice, the way they legitimize themselves, and the logic by which they function and make sense of reality (Scott, 2013). They approach their work and their communication with others through these different occupational, institutional, organizational and cultural frames (Coburn, 2001; Spillane, Diamond, Burch, Hallett, Jita, & Zoltners, 2002, Kezar, 2013; Rutledge, 2010).

Scott (2013) expands upon this, identifying three “pillars” of institutions - regulative, normative, and cultural-cognitive – that serve as the key elements that constitute and support institutions. He defines the “regulative” pillar as pertaining to institutional efforts to set rules, as well as monitor, and sanction actors' behavior. The second pillar -the “normative” pillar - encapsulates the values and norms that frame the boundaries of the institutional setting, and, as such, the perspectives of actors operating within the institution. Finally, the “cultural-cognitive”

pillar refers to what Scott (2013) calls the "nature of reality" within an institutional context, and specifies the categories and frames through which actors interpret identity and meaning. Each of these pillars help to frame our understanding of the different institutional character of each of the institutional partners and how this shaped how they made sense of research findings in BCPS as they worked together to translate them into implementable practices.

Some have applied Scott's (2013) framework to the problem of translation. In his study of educational innovations, for example, Stevens (2004), provides an example of Scott's (2013) regulative pillar at work, arguing that institutional incentive structures within the academy provide little impetus for researchers to partner directly with districts or to publish research that works to translate knowledge for consumption by teachers and administrators as such work does not, often, lead to promotion or tenure as surely as publication in more prestigious academic journals. Similarly, it is not the cognitive-cultural norm for teachers to access or read these journals, leaving them with limited opportunities to explore empirical research regarding best practice (Shankland et al., 2010).

Even in cases when such barriers are breached, resistance may occur because the particular "world view" advanced by certain branches of research may conflict with a implementer's own philosophy, experience and worldview (Coburn, 2001; Dagenais et. al, 2009). These studies point to the importance of understanding how implementers both individually and collectively make sense of research findings (Spillane, Reiser & Reimer, 2002). A key example of this lies with perceptions among practitioners of a lack of alignment between the practices advocated by research and the "real" work, and constraints, faced by educators on a daily basis (Honig & Coburn, 2008; Levin, Sá, Cooper, & Mascarenhas, 2009; Taylor-Powell & Boyd, 2008).

In this study, we will draw on Scott's pillars of institutions and sense making theory to understand how our three different institutional actors made sense of the work of the Center. We will trace the ways in which each partner defined the project's research findings, examine how these definitions changed over time and were translated across the work, and identify the organizational, institutional, social and political factors that mediated this process. It is at this nexus of institutional, political, organizational, and social norms that researchers, practitioners, and developers negotiate the nuanced process of translation.

Methods

To answer our research questions, the NCSU conducted a robust case study in our partner district. A variety of data were collected to capture the learning and design process as it occurred. Most of the data comes from the cooperative sessions of the District Innovation Design Team (DIDT) – which served as the merging point for our three institutional partners, EDC (the developers), two researchers from each partner university, and members of the district and innovation schools (two representatives from each innovation high school, at-large members from other district high school, three district administrators and a NCSU district coordinator). Researchers captured comprehensive audio recordings, wrote detailed field notes, collected physical artifacts (e.g. handouts, documents and photographs) and administered post-session feedback surveys. In addition, researchers recorded detailed minutes at NCSU planning meetings, and conducted two sets of phone interviews – one at the mid-point of the design process, and one at the end - with each district's DIDT members, NCSU researchers, and EDC facilitation team. The data resulting from these activities – spanning a 6 month period from September 2012 to January 2013 – are described below, in Table 1.

Table 1. Description of Data Sources

Audio of Design Team Meetings	95 Hours
Post-session Feedback Surveys	5
Field Note Logs	10
Artifacts	81
NCSU Meeting Minutes	22
Post-Session Reflections	5
Interviews	18

Following data collection, NCSU researchers conducted an in-depth analysis of the design process in BCPS. Data were systematically analyzed through directed content analysis (Patton, 2002). In the case of textual data (e.g. field notes, interview transcripts, and documentary artifacts), researchers coded information according to an analytic framework that included both *a priori* constructs drawn from our review of the literature, as well as emergent themes and ideas. This framework included codes capturing evidence related to presentation of content (e.g. the *NCSU's presentation of the design challenge*), as well as codes targeting *participants' understanding* of that content. Additionally, analysts utilized a series of *a priori* codes intended to capture data related to our framework for understanding the process of translation, as described above. These codes included categories related to Scott's (2013) *regulatory, normative* and *cultural-cognitive* pillars, for example, as well as the *organizational* and *federal and state policy context* themes described in our conceptual framework. Finally, broad themes emerging from the data were considered by the research team for inclusion in our analytic framework.

Due to the length and complexity of the audio files captured at the design team meetings, they were not transcribed in their entirety. Instead, analysts listened to each audio recording in full, and transcribed relevant participant quotes using a reflection instrument featuring prompts aligned to our analytic framework. The team then coded the reflection forms.

As the research team engaged in this analytic process, they diagnosed and built reliability by simultaneously coding an initial set of documents, consisting of exemplars of each type of data collected during the design process. Teams then met to discuss questions, issues and areas of misconception, and to gauge inter-rater reliability. These meetings continued for the duration of the coding process. As the analysis moved forward, the team discussed emerging themes in the data, considered the creation of codes to capture elements within those themes not accounted for in the *a priori* framework, and identified points of disconfirming evidence.

Findings

Analysis of the data drawn from the NCSU's design team process reveals several broad findings regarding the process through which the Center presented its research findings to its district partners, the ways in which those district partners made "sense" of those findings, and the factors that mediated their sense-making process. In general, these findings indicate that participants in the process constructed a broad understanding of PASL as a way of "personalizing" education for students, and strengthening relationships – they did not, however, appear to internalize specifics regarding the effective practices within that broad idea framed by the NCSU's research. Moreover, the evidence indicates that a number of institutional, organizational, and policy-related factors appear to have shaped and constrained participants' efforts to "make sense" of the Center's work. Each of these findings is explained in greater detail, below. It should be noted that the developers organized the DIDT sessions with feedback from the researchers during weekly phone meetings. In addition, the developers drew on feedback forms from DIDT members to inform sessions.

The Developers' Presentation of the Research by the Research Partners

The Center’s research, including the design challenge of PASL and findings from the Center’s case study of effective and ineffective schools in the district, was primarily presented to the DIDT during the first two sessions. This presentation included a review of the study’s framework and findings, the definition and core elements of PASL, examples of PASL practices, and a review of “enabling supports” found to support personalization in the case study schools. DIDT members also received a 50 page research report summarizing the NCSU’s research findings during the first session. The total amount of time spent on explicit presentation and group discussions - intended to provide opportunities to reflect on the presented material about PASL – was relatively limited. Approximately 6.5 hours of the first three two-day sessions were specifically spent on the design challenge, out of a total of approximately 36 hours of combined activity, with the majority of the remaining time spent on team building, and the presentation and discussion of material related to designing and developing innovations,

In addition to those specific times during the first few design team sessions when Center researchers and EDC facilitators focused activities on the Center’s research, there were also several brief, intermittent opportunities for DIDT members to engage in thinking about PASL more broadly. For example, during the second day of Session 1, participants were asked to write their own definition of PASL, instructed to frame these definitions “as if you were to explain it to someone else.” In another example, EDC facilitators discussed elements of PASL during Session 4 as part of a presentation on the criteria for evaluating potential innovation ideas. These opportunities to reflect on the concept of PASL were limited, however, tending toward brevity and lacking in opportunities for participants to critically engage with materials as a group.

As noted, evidence from the first two design team sessions indicates that the facilitation team focused the work on pushing the DIDT to gain a greater understanding of the NCSU’s

research findings, and to gain a “mastery” of the concept of PASL. A member of the facilitation team, for example, noted this importance, stating

We know, that through hard work and effort is where we will achieve mastery or competency in something, and our purpose with this is a transfer of the incredible amount of research and effort that has been done in Broward County so that you become masters of this material – so that you know it, and understand it [...] the first two sessions are to deepen your understanding [...] because at the end of the day, you are going to be the ones in your schools and supporting this thing. The capacity to understand PASL – what it means, within all its fine details of practices, structures, needs, the elements of PASL – you’re the representatives of that [...] it’s also what is going to inform the designs.

Moreover, field notes from the session also indicate that EDC facilitators were attempting to push the DIDT away from broad, general, conceptions of PASL toward specific practices that could be implemented in their “innovation” schools. For example, one EDC facilitator noted in session 1,

One of the incredible gifts that we’re given by this project, in fact, is a year of research to take the broad notion of ‘there’s something that we’re doing right here in this district – but what is it’ so that we can anchor it in what it is that we’re doing. So that we can move away from the really broad thing – ‘we want to do something that is good for all students’ – so that we can anchor it to something very specifically and precisely to something that we actually found in the district, that highly effective schools are doing.

This suggests that early on in the learning process, the facilitators were placing emphasis on thinking about PASL in terms of specific practices, rather than on the concept more generally, perhaps as a way to encourage DIDT members to engage in the process of designing a specific,

implementable innovation. This emphasis was also reflected in a shift toward the analysis of “case examples” of specific PASL practices, intended by the facilitation team to deepen participants’ knowledge of the details of the Center’s findings, in the second session.

Presentation and discussion regarding the Center’s research was significantly more limited in Session 3 than in Sessions 1 and 2. During the third session, DIDT members were presented with a handout containing a summary “definition” of PAS, and 11 “core components” of PASL (four each for academic learning and socio-emotional learning and three for behavior management system). After receiving the handout, participants were asked to “annotate” it to indicate aspects of PASL that they did not understand. This was followed by a whole group discussion about the core elements. During Sessions 4 and 5, there was no specific presentation of the design challenge or the research findings. These sessions focused on needs assessment within the innovation schools, data collection and analysis, and the eventual design and development of the group’s PASL innovation.

Overall, evidence gathered throughout the design team process indicates that there was a relatively limited amount of time spent on presenting the NCSU’s research findings to the DIDT, and even less time devoted to providing opportunities for DIDT members to critically engage with the concept through reflection or discussion. Explicit presentation of the design challenge occurred primarily in the first two sessions, while the core elements of PASL were introduced and discussed in the third session. While there were opportunities for participants to collaboratively discuss what they were learning about the Center’s work, and PASL more broadly, these opportunities were often short and scaffolded in only a limited fashion by the facilitation team, who focused much of their attention on building the capacity of participants to understand concepts more directly related to innovation design and development.

District Partners' Understanding of the PASL Finding

Overall, our findings indicate that over the course of the process, participants constructed a broad understanding of the fundamental ideas underlying the PASL finding, but lacked a firm understanding of the specific practices highlighted by the Center's research. For example, on session feedback forms, participants talked about "improving our schools so they meet the needs of the whole child," and made statements such as, "personalization does not mean individualization," "students must feel a personal connection in their school in order to be effective," and "PASL is more about changes in the school system and the culture of the school." These statements indicate that participants had a very general understanding of PASL as "personalization", but there was no evidence in these responses that they had a deep understanding of the various practices that constituted the PASL finding. This lack of a deep understanding was also reflected in participants' expressed reluctance to communicate the work of the DIDT and the idea of PASL at their schools between sessions, resulting from a concern regarding their lack of specific information regarding what the work would entail for their schools.

In Session 3, most of the expressed understanding of PASL among DIDT members revolved around the PASL core elements, which were presented to the DIDT in a handout that also included a definition of PASL. Several DIDT members noted that some of these core elements were either too broad, or would be difficult for teachers in schools to implement in actual practice. There was also a more general lack of understanding among some DIDT members about specific components of the PASL core elements. A DIDT member, for example, stated, "I absolutely do not understand what that means – how would I get a student to take responsibility for their own socio-emotional learning?" This expressed frustration provides

further evidence that although members of the DIDT did appear to have a general understanding of “personalization”, broadly, many did not have a firm grasp of specifics of the PASL construct.

In final two design team sessions, participants’ understanding of PASL was mainly expressed through statements or outcomes of specific activities or group discussions. In Session 4, for example, participants developed “shared needs statements” that included statements related to PASL, PASL practices, and PASL outcomes. Several of these statements reflected participants’ broad construction of PASL as “personalization”; one participant, for example, noted that, through PASL, “students have meaningful, positive connections with adults” and “students have relationships that are supportive at the school and classroom levels.” There were few examples, however, of participants identifying the effective practices highlighted in the NCSU’s research, or reflection upon how those practices might lead to the broad outcomes that they identified through their work.

Across the sessions, there was some confusion among participants about several aspects of the design challenge process: the implementation and scale up of PASL innovations and the amount of variation that could occur across schools in designing and developing the PASL innovation. There were concerns among members that components of the PASL innovation that were designed in one school context would not be transferrable to another school context. One working group member, for example, expressed concern about the idea that PASL innovations will be scaled up to other schools in the district, stating, “But personalization that happens at [school A] or [school B] is not the same as personalization that happens at [106].”

Given the finding in the previous section on the developer’s presentation of the design challenge that there was not a substantial amount of time spent on presenting and discussing the PASL concept, it is perhaps not surprising that there appeared to be only a surface level

understanding of the concept. This was reflected in participants' statements, responses on feedback forms, and anxiety about communicating back to their schools about the work and the concept of PASL. Another explanation is that district and school partners remained at a surface level because they resisted the idea that specific practices could be transferred to one school from another. In addition to their limited exposure to the research findings within each session, however, evidence indicates that a number of factors operating within the context conditioned participants' understanding of what PASL was, and the innovation that they would eventually construct. These factors are identified and described below.

Institutional Factors as Mediators of Sense-Making

As members of the design team engaged with the NCSU's research findings, evidence indicates that several *institutional* factors mediated their understanding of what they were learning. As Scott's (2013) framework indicates, these included *regulative* and *normative* factors that worked to structure and constrain their interactions with the Center's research. In addition, the data indicate that *cultural-cognitive* understandings of key concepts – like personalization – also played an important role in mediating the ways that design team participants came to understand the PASL finding.

With regard to regulative factors, for example, evidence indicates that a number of formal “rules of the game” played important roles in framing the process through which participants came to understand Personalization for Academic and Social Learning. The way in which *time* was structured in each session by the facilitation team, for instance, was reported by several participants to have constrained their ability to engage with the research. This manifested in two primary ways. First, the facilitation team focused district participants' attention on the Center's research findings early in the process, with little opportunity for participants to engage with

documents like the NCSU's research report in the middle and later phases of the team's work, wherein the actual design of the innovation took place.

Second, even in those early sessions in which the research played a primary role, the amount of time provided to participants to read, interrogate, and discuss the research was fairly limited. A member of the facilitation team, later, explained that such segments were truncated intentionally to adhere to andragogical theory. He noted that "[...] we know that there's basic theory of adult learning, that there's diminishing returns beyond 20 minutes of any particular period of talking, and that's kind of how we set our time marks". Design team members, for their part, noted that these relatively limited opportunities for engagement with the research constrained their ability to develop deep understanding regarding PASL, or the Center's research more generally.

In addition to the structuring of time, another key regulative factor which appears to have played a role in participants' sense-making during the NCSU's design team process was the way in which participants were grouped together during the work. For the majority of the design team meetings, participants were assigned to "innovation school working groups", in which they considered the task of translating the NCSU's research through the lens of the particular school context that their group was assigned to. This structuring appears to have tightly focused participants' attention upon the particular needs and context of their assigned school – potentially resulting in multiple perspectives on what PASL was, and, ultimately, should be as an innovation. One team member, for example, noted that several participants inferred from the "working group" arrangement that their task was to develop multiple types of PASL innovations – a perception that the facilitation team later attempted to remedy, but which proved resilient. She noted that

Well I can tell you that from the beginning that, at least for several of us on my team, our perspective of how many prototypes we were going to end up with changed. It seemed that they changed throughout the process. We thought maybe that each school was building their own prototype. And then we found out, no, we're only building one prototype that all three schools were going to be using. So that was a change that kind of evolved through the process that I don't, either wasn't made clear initially, or it was something that indeed changed as we were working.

A final regulative factor which the data indicates shaped the way in which design team members came to understand the NCSU's research findings was external to the design team process, rather than internal. Several participants indicated that they were keenly aware of contractual rules within the district binding any potential innovation that they might devise – particularly with regard to practices that might impact teachers' work. These participants expressed that – while they appreciated the broad idea of PASL – their perception of the kinds of “feasible” practices that could be distilled from that idea was strongly constrained by their understanding of these contractual rules. One member captured this, sharing that

I'm on board with [NCSU researcher] – one of the things that we want to do is make change at these three locations, or see what we can do over the next three years with what's left in the study [...] but our restrictions are contractual. We can change things within the school day and bell schedule but that's a contractual process. So any kind of systematic change where we're looking for any kind of sustainability has got to be for a whole school thought process change and I don't think – I'm not a negative person – I just want to know how in three years, how do we get there.

In addition to these formal, regulative, rules of the game, data collected during the NCSU's design team process indicates that more informal norms of behavior also shaped participants' engagement with and understanding of the Center's research findings. One powerful norm that came to frame participants' "sense-making" efforts, for example, centered on the teams' dedication to *creative, "outside the box" thinking*. The facilitation team in the district engendered and built this norm among the group in a number of ways: frequently asserting, for instance, that the design team that they should "dream big", defraying concerns regarding feasibility or detail until later in the process, and underscoring that the team's task was focused on innovation upon, rather than replication of, the effective practices identified in the initial research. One facilitator, for example, shared with members of the team that, when communicating with peers in their schools, they should remember that

[...] if you came in knowing that end result, then what stake would Broward have? That's why we're here – to design it. So we need to let the school teams know that they're a part of this building. That feedback that you got from them is going to go into the end product. We don't have that end product created because we're in the process of designing it now.

While this emphasis on innovation and "bottom up" design was a feature of the NCSU's model, the data indicate that it established wide boundaries around the concept of PASL, within which participants in the process ranged far from the Center's original findings regarding effective practice in the district.

A second norm of practice within the group – and the district, more broadly – that the data indicate played a significant role in shaping participants' understanding of the PASL findings was a widely held belief in the *primacy of the individual school context*. Throughout the

process, a number of participants expressed a belief that the schools in their district – both those being targeted by the design team for eventual implementation, and more widely – were unique contexts, and that generalizing practice, however research-based, was a challenging idea. One participant expressed this, noting that

[...] the schools are so different in their, you know, cultures, in their, not financial means, but like one of the schools, they're at a certain percent of free and reduced lunch, we're at a certain percent, and then another school is at a different percent, and how will we develop a prototype when the information is so vastly different amongst us three, and then we want to branch out and do it for every school. So we have to develop something that's somehow gonna hit every single different school when it's different demographics, different financial means, different everything.

Within the design team, the practices of the facilitation team often seemed to reinforce this norm. There was, for example, a stated value on being *needs-centered* in the design process, and several activities which tasked team members with gathering and analyzing data to understand the needs of each innovation school context. While, again, this was an intended feature of the NCSU's design process, evidence indicates that participants' belief in the importance of being contextually-driven, when intersected with this emphasis on new data-gathering in the innovation schools, served to draw participants' attention away from the original research findings.

The last of Scott's (2013) institutional factors which appear to have played a role in the Center's process were *cultural-cognitive* factors. In the context of the NCSU's design process, these factors manifested in the very different understandings of what, exactly, "personalization" within the educational process meant. This varied understanding, in turn, shaped participants'

perceptions of the PASL finding. Several participants indicated that they – along with their innovation school peers – conceptualized the idea of personalization in very different ways. One participant reflected on this, after gathering feedback on the idea of PASL in her school. She noted that “everyone came up with – and I was surprised – with a different view of what personalization was. That was kind of interesting to me, because I was expecting them all to come up with, you know, the grocery list, the similar laundry list of what some things would be”.

In addition to the sundry conceptualizations of what “personalization” meant, there were a variety of understandings among participants’ in the process regarding *how* personalization might be manifested within schools. Moreover, several participants questioned the idea that personalization practices could be transferred between contexts at all, asserting that such skills might simply be an innate quality of “good” teachers. One design team member, for example, shared that

I’ve been struggling with this since day 1 [...] how do we guarantee that they know how to socialize or implement the socialization? Build relationships with students? How do we guarantee as we move forward that teachers know how to act within the context of socialization? Especially those teachers that did not go through a teaching degree. What trainings are in place to guarantee that?

One of his colleagues responded by noting that “you’re assuming that people who went through teacher programs have that. This is something that is innate [...] when we create this prototype, we have to address this concept, because a large percentage of our teachers do not have that skill set”. This belief that personalization might, in fact, not be a transferrable aspect of schooling had particular import for the NCSU’s process, especially in light of the aforementioned norms

regarding the importance of innovating upon, rather than replicating, the effective practices identified in the Center's initial research.

Organizational Factors as Mediators of Sense-Making

In addition to the written and unwritten institutional “rules of the game” noted above, participants' efforts to “make sense” of the information presented by the NCSU were mediated by factors related to organizational capacity. Participants’ perceptions of this organizational capacity related to multiple levels within their context, including school-specific factors, as well as their perceptions of the capacity of the district as a whole. Questions of feasibility, resources, and sustainability were often part of participants’ dialogue during the process, especially when forecasting implementation. This, in turn, shaped the way the way participants thought about translating the NCSU research findings into a usable and practical innovation that they would the capacity to implement.

As participants engaged in the process of understanding the NCSU's findings, their efforts were constrained by their perceptions regarding the limits of their organizational context – particularly those participants who would be tasked with the implementation of the innovation in their schools. For example, participants’ efforts to “make sense” of PASL were mediated by their understanding of "teacher capacity" across the district. Participants aggressively pushed back on a “teacher-focused” understanding of what the PASL innovation should be, for example, based upon their perceptions regarding the limitations on teachers’ time, resources, and will. An innovation school participant asserted that these limitations in teacher capacity would challenge "buy-in" to any PASL innovation, stating, “That is our biggest apprehension of this entire thing. We buy into it, we believe in it, our principal believes in it. Our faculty, we are very worried about.” Concerns around teacher capacity were, further, exacerbated by the shifting district and

state policy context, which reportedly placed teachers at the forefront of a plethora of additional initiatives. One team member expressed this concern, noting that “what we really want to do is meet some of the concerns of the teachers, and I think a lot of the teachers’ concerns right now is that they’re overwhelmed, the block schedules are gone [...] FCAT’s coming up [...] how do you implement something new on top of all that other stuff?”

An additional example of how participants’ perceptions regarding the limited capacity of their organizations shaped mediated their interpretation of PASL manifested through their consistent urging that any innovation designed by the team be constrained within the boundaries of “what we already do”. One member of the design team, for example, asserted that it would be important that the team ensure that any interpretation of PASL that they design be framed so that teachers in their schools would be able to understand it as “not necessarily [...] another thing to do. It may be building on things we are already doing well. I think that is so important to make them understand. We are not coming in to give you another job”. The facilitation team, in response to concerns regarding organizational capacity among the team, further emphasized that identifying existing practices that “fit” the PASL model may be a productive path for the group. One facilitator, for example, shared with the DIDT that

What we’re trying to get you to do here is to recognize that there might already be structures in place in your schools, or the school in Broward County, but really to begin to identify what are those practices that will hopefully be the ones that are meeting student needs and how do they connect to both academic and socio-emotional

Another significant facet in participants' sense-making processes – linked with their perceptions of organizational capacity - lay with the significant uncertainty and limited

communication characterizing their school and district contexts, and the extent to which their organizational leadership enacted policies and supports to mediate that uncertainty. Evidence from the process, for example, indicates that participants felt frustrated by a lack of certainty regarding what "limits" would be placed upon them by the district as they engaged in the design process, or the extent to which school and district leaders would be willing to contribute resources to their efforts. While facilitators assured the teams that they had approval from the district to "generate new ideas", they were also advised to also consider "feasibility" as well as "sustainability" as they thought about how to translate the PASL findings into practice. Participants' interactions during the process indicate that they were distinctly mindful of these potential limitations as they engaged in the task of creating an innovation from the PASL finding, with uncertainty surrounding their constraints causing significant friction with the norms emphasizing "creativity" and "open-mindedness" encouraged by the facilitation team.

One team member, for instance, expressed the frustration this lack of certainty regarding support and resources caused, questioning

[...] is administration willing to back up these changes and enforce these changes and make sure that the changes are implemented? And also, will the county give the support that's needed to make the changes and not say, oh, well, you can make these changes, but we can't do this because of budget constraints or because this hasn't been done? Is there enough support at the county and the administrative level at the school and with the teachers and faculty to make sure that these changes are in place, and are they willing to do the change? That's probably my biggest concern, and I know that that's the biggest concern of our group as well.

The evidence also indicates that some participants possessed greater willingness to look beyond this uncertainty as they engaged in the process of “making sense of” PASL than others. One assistant principal on the team, for example, asserted that while there may be “barriers” to implementing PASL practices in their schools, they were not insurmountable. She argued that

I think it's important that we validate what's being said, and be cognizant of the things that we know are limitations - but they're not barriers. They not barriers because there's nothing on this list that can't be either creatively financed or monies renegotiated that are already in schools, or don't cost anything.

A final example of how organizational uncertainty shaped participants’ perceptions manifested through their significant resistance to accepting lack of clarity regarding their emerging design. A number of participants, for example, asserted that the tensions created by considerable uncertainty surrounding other district policies and initiatives placed significant pressure upon them to be clear and precise in their communications regarding PASL. During the early portions of the design process, for instance, many questions about the innovation were still unanswered. This lack of certainty surrounding what, exactly, PASL would “be” engendered some dissent among participants, tasked by the facilitation team with sharing information regarding PASL with stakeholders in their schools, and gathering feedback. One member of the team – a district administrator – attempted to put the concerned participants at ease about their uncertainties by stating,

I think there is a need to express that it's okay to be unclear, during the prototyping phase, because you can't figure out what you need, or our students need, until you ask a

lot of questions and you decipher which ones are relevant to personalization [...] so I think we need to get them to accept that it's okay not to know all the answers yet.

For some participants though, this was not sufficient. One assistant principal on the team warned, for example, that "addressing the schools without all of the answers" was a potentially dangerous idea; he noted that "that's where the mistrust comes in, because they're like 'you're not telling me everything'".

State and District Policy Context

Finally, it is important to acknowledge that additional state and local policies operating within the context played an important role in mediating the process of translation for participants. Our findings reflect that the ever-changing policy environment in Florida – historically known for its particular dynamism surrounding education – placed significant strain on participants' efforts to "fit" PASL within their efforts to conform to state and local mandates. Just a few examples of new policies being implemented in the district that participants indicated shaped their thinking regarding PASL included a new teacher evaluation model, updated standardized tests and end-of-course exams (EOCs), graduation requirements, and further initiatives within the district to advance goals related to college and career readiness.

Recent policy action at the state level surrounding teacher evaluation, contracting, and compensation, for example, pushed the district to implement the Marzano Teacher Evaluation Model in their schools. As the NCSU worked to develop the innovation design concept, evidence indicates that participants were strongly attuned to the need to ensure that any practices they synthesized from the PASL finding be in alignment with "Marzano". Doing so, they asserted, would both help to ensure teacher "buy-in", as well as lend clarity to the kinds of tasks

that they were asking teachers to do. One member, for instance, noted that “there are support materials within the Marzano system that I can send to teachers and say ‘This is what it looks like, this is how it’s done’”. Ensuring tight alignment to this framework, however, likely served to bind the group’s understanding of what PASL was, and should be.

Another key policy that the data indicates shaped participants’ understanding of the PASL finding was the state’s adoption of the Common Core State Standards – which, eventually, evolved into a more state specific framework in response to political contestation of Common Core implementation. Several participants expressed uncertainty regarding how they should interpret PASL’s assertions regarding “personalization” within a broad policy context that is "all about standardization, teaching certain standards, etc...”. Moreover, numerous members of the team indicated that they felt a strong need to ensure that any PASL innovation responded to the district’s focus on college and career readiness – an outcome of the Common Core framework which factored strongly into the accountability frameworks placed upon schools by the district and state. These accountability frameworks evidently conditioned the kinds of practices the group sought to implement. One teacher, for example, asserted that any innovation would have to serve the schools’ mission of promoting student achievement, sharing that "the bottom line is that my administrator is looking at my reading scores". An assistant principal agreed, noting that accountability pressures would limit teachers' willingness to move past a "content" focus, and that "teachers these days are teaching at such a stressed level, that they have to stay within 'how do I get these students to pass this exam?' so they neglect that piece [personalization] on purpose!"

The NCSU developers and researchers acknowledged and encouraged the participants to share their perceived challenges presented by the district and state policy context as they

constructed the innovation. From each partner's vantage point, there was a general agreement for the innovation to be in alignment to these various aspects of the district's priorities where possible, but various aspects of the innovation lent themselves to alignment better than others and within different contexts. Beyond teacher evaluation, the practitioners were challenged by the developers to consider the potential for the innovation to work in alignment with other policy initiatives.

In one dialogue, for example, a facilitation team member commented to the group, "I think the challenge is getting teachers to see how it all works together, that this isn't meant to battle the Common Core for attention, but this is a way of...how do you look at them all together." The practitioners were not as receptive to the idea of "seeing how it all works together," with one assistant principal noting, "it's really hard, because most of them (teachers) don't see it like that." Another teacher with a similar sentiment commented stating that, "no, because we don't get it all bundled like that, as a teacher they don't see it all bundled together [...] if we had done it all at once, it may have seemed like a lot, but at least we could have seen it in one place." The researchers made sense of this idea that the practices should work together in yet a different way and expressed that, "we've got to have the innovation, and then we have to figure out the marketing plan [...] scaffold all of the pieces".

Ultimately, several members of the design team captured the impact that the state and district policy context had upon their thinking about how to translate PASL for their schools when they expressed feeling "battered" by the constant policy churn within the district, and argued that their environment was a place "where teachers already feel beat up". The changing nature of the policy environment was something all participants acknowledged - somewhat

begrudgingly - and attempted to factor in to the design of the innovation as they sought to make it more sustainable.

Discussion

In the end, evidence from this phase of the NCSU's "design" process indicates that participants within our partner district constructed a very broad understanding the research findings intended by the Center to be the basis for the innovation they would eventually develop and implement within their school contexts. As noted above, very few participants in the process appeared to internalize specific details regarding the kinds of effective practices observed by the research team in their initial case study work, instead constructing an understanding of the PASL finding that encapsulated little more than a broad concept of "personalizing" education for students and enhancing teacher-student relationships. The design concept produced by the team following the five two-day design sessions captured in this work reflected this broad understanding; few of the practices highlighted in the Center's case study work survived as part of the team's "prototype".

One key factor highlighted by these findings which might explain the relatively loose connection between the Center's original research, participants' understandings regarding PASL, and the eventual concept which they design centers on the limited opportunities for engagement with the actual research presented throughout the process. As noted, only a fraction of the team's time was dedicated to presentation of the Center's research findings – even less of that time was given to critical analysis of those findings by participants, along with discussion, questioning, or critical reflection. One clear implication of this is that if researchers wish their work to better

bridge the gap between theory and practice, it is imperative that sufficient structured time be afforded to practitioners to digest and consider research findings.

In addition to deficiencies in the presentation of the research, the findings presented here also indicate that many of the factors highlighted by previous research – including institutional, organizational, and policy-related factors – likely do play a considerable role in shaping participants’ efforts to “make sense” of research findings. Written and unwritten “rules of the game”, for example, seem to have significantly shaped the contexts in which participants engaged in such interpretive processes, likely influencing their outcomes. Participants’ understandings regarding the limits of the capacity within their organization – as well as their frustration regarding uncertainty surrounding those limits – may, similarly, have acted to constrain their thinking about how PASL might be made manifest in their own schools. Finally, the significant pressures imposed by state and district policies – including accountability policies – also appear to have shaped participants’ perceptions of what any innovation they devised from the Center’s research would have to “look like”.

While the data leveraged by this study are limited and largely descriptive, they do provide a useful window into the factors that played a role in the interpretive process undertaken by researchers, developers and practitioners in one district context. The findings presented here support the notion that researchers must attend not only to the rigor of their work, if they want to ensure that it crosses the research-practice divide, but also the ways in which it is presented, along with how conditions within school and district contexts may mediate how it is received and interpreted.

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