Risk takers: PDS partners developing and sustaining antifragile teachers

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Abstract

Purpose – The ever-changing educational landscape, exacerbated by recent events surrounding COVID, political and cultural unrest, necessitates educators who are antifragile, able to withstand pressures and thrive amidst uncertainty. To this end, the pilot study reported here aims to examine mathematics educators’ initial reflections on what it means to be a risk-taker in the classroom, what prevents them from engaging in instructional risks and what would support their instructional risk-taking.

Design/methodology/approach – The pilot study utilized interviews with participants, including four pre-service teachers who were enrolled at the university and seven in-service teachers who were employed on active PDS campuses within the school district.

Findings – Preliminary findings suggest teacher beliefs concerning risk-taking, the barriers to engaging in such behaviors and the support needed to be able to take instructional risks. Results highlight the role of school–university partnerships in cultivating a culture of risk-taking through active collaboration and dialogue.

Research limitations/implications – These findings have important implications for universities and PDS partners engaged in preparing teachers for an educational field that is unpredictable and continually changing. Additional research should be completed in varying PDS settings.

Practical implications – Findings highlight the role of school–university partnerships in cultivating a culture of risk-taking through active collaboration and dialogue.

Originality/value – Educators are currently faced with an unprecedented instructional landscape. Antifragile, risk-taking teachers are needed who are adaptable and innovative, thus better equipped to enter the challenging and uncertain realities of education.

Keywords Risk-taking, Professional learning, Teacher preparation

Paper type Research paper

Introduction

Decision-making under uncertainty appears as a central theme in Nassim Nicholas Taleb’s (2012) book Antifragile: Things that Gain from Disorder. Teachers already know the richly
complex process of rapid and constant decision-making that occurs during student instruction. Chaos erupted in that familiar environment as teachers transitioned to various forms of virtual instruction in response to COVID mitigation efforts. The once familiar classroom, and its associated professional practice, became an arena of uncertainty in which teachers were forced to adopt unfamiliar pedagogies and new forms of student interaction (Lemon & McDonough, 2023). According to Taleb’s (2012) premise, fragility is based on how well an entity (e.g., an idea, a system, an organization, an individual, etc.) copes with abrupt disruption. Fragile entities are harmed by rapid transitions and other abrupt disruptions or shocks to the status quo. “Antifragile” entities, on the other hand, are not only robust and resilient during such periods of disruption, they even benefit from it.

Antifragile teachers are needed for schools and classrooms disrupted by chaotic events such as a pandemic, school violence, or political and cultural unrest. Antifragile teachers need to be equipped to work in an uncertain environment—to anticipate and thrive in the persistent uncertain nature of a pandemic or other challenges that present dramatic changes in the routines of professional practice. Similarly, teacher educators must respond to the challenge by preparing antifragile teachers who will grow stronger during times of disorder and threats to what is perceived as “normal.” This will require an understanding of how to prepare future teachers who understand that cultural, societal and ideological norms are constantly changing. Antifragile teachers must be prepared for the volatility, uncertainty and randomness of the unpredictable, natural, complex nature of the world wherein they live and teach. To that end, this pilot study examined educators’ initial reflections on what it means to be a risk-taker in the classroom, what prevents them from engaging in instructional risks and what structures would support their instructional risk-taking. In doing so, the authors begin and extend critical conversations on how school and university partners may best support pre-service and in-service teachers alike during an unprecedented educational landscape.

Literature review

Not only did the COVID pandemic disrupt schools, but it also exposed and widened opportunity gaps for students within the education system (Bailey, Duncan, Murnane, & Yeung, 2021; Goudeau, Sanrey, Stanczak, Manstead, & Darnon, 2021). Inequities in schools reflect inequities in society: systemic disparities in healthcare, wealth, education, affordable housing, quality childcare, school funding, teacher quality, curricula, etc. (Dana & Yendol-Hoppey, 2020). While some students had easier access to technological devices, internet access and quality teaching, others simply fell through the cracks, resulting in significant learning losses (Wortham & Grimm, 2022). Addressing the revealed equity and performance gaps in schools requires teachers who are risk-takers; teachers deviating from established instructional strategies, implementing unfamiliar strategies and ceding classroom control in favor of more student-centered learning and growth. In the true sense of Taleb’s (2012) definition, antifragile teachers would maximize opportunities inherent in the disruption.

Many factors contribute to the development and sustainability of resilient, adaptable and antifragile teachers. Studies involving both pre-service and in-service teachers indicate that healthy professional relationships and a positive school community are critical requirements for resiliency (Fokkens-Bruinsma, Tigelaar, van Rijswijk, & Jansen, 2022; Olson Stewart, Rotheram-Fuller, & Liou, 2021). Healthy school morale increases teachers’ ability to manage stress, cope with unpredicted events and engage in critical reflection (Olson Stewart et al., 2021; Pozo-Rico, Poveda, Gutierrez-Fresneda, & Gilar-Corbi, 2023). Strategies that help teachers adapt to change, increase their self-awareness and help them engage in the school community are all linked to antifragile practices (Olson Stewart et al., 2021; Pozo-Rico et al., 2023). Availability and access to resources was also cited in the literature as an essential component of teacher resiliency (Danyluk, Burns, Crawford, & Hill, 2021; Pozo-Rico, 2023). Teachers who feel prepared and equipped feel more efficacious in their lesson planning and implementation, especially in the midst of uncertainty.
Purpose

COVID resulted in students who are experiencing failure at alarming rates, revealing the harsh manifestation of opportunity gaps (Carpenter, 2020). States across the nation have revealed significant learning losses in their students; statistical models show an average learning loss between seven and twelve months, with students from marginalized communities suffering the most (Wortham & Grimm, 2022). For this reason, the interventions needed by students are more significant and on a larger scale than they were pre-pandemic, necessitating a change in the way teachers are prepared to enter the profession as well (Wortham & Grimm, 2022). This is an unprecedented and uncertain landscape and maintaining the status quo will not be sufficient to close persistent and exacerbated learning losses. The post-pandemic environment requires classroom teachers who are willing to deviate from traditional instruction in favor of engaging in instructional risk-taking.

Risk-taking is defined as engaging in actions in which the outcomes are uncertain. In education, this is linked to creative pedagogy and innovative classroom practices (Cooke & Francisco, 2020). Throughout this article, the term “risk-taking teacher” describes an individual who is willing to deviate from established instructional routines and strategies, who eagerly implements unfamiliar strategies and who cedes classroom control in favor of more student-centered learning. Cooke and Francisco (2020) assert that instructional risk-taking behaviors contribute positively to the quality of educational programs and instruction.

The quality of school-university partnerships is vital to the development of a professional culture where risk-taking is valued and celebrated. Affolter, McNeill, and Brinza (2022) state that students’ ideas should be “viewed as valuable and essential to their work of figuring out phenomena. Students are encouraged to take risks and to work together with each other’s ideas as they collaboratively engage” (p. 26). A similar culture must be created within school-university partnerships. These types of relationships and partnerships are core values of Professional Development School (PDS) work and explicitly connect to the fourth NAPDS Essential, Reflection and Innovation. It is the shared work of the school-university partnership to cultivate a culture of risk-taking, specifically in response to changes such as COVID or political and cultural unrest. Through active collaboration and dialogue, pre-service teachers, in-service teachers and university faculty can build a community of risk-taking that will benefit PK-12 students. Educators are currently faced with an unprecedented instructional landscape. Antifragile, risk-taking teachers are needed who are adaptable and innovative, thus better equipped to enter the challenging and uncertain realities of education. Potter, Baumgartner, & López Turley (2021) argue that “moving the needle on educational inequality requires long-term partnerships,” (p. 28). The authors of this article posit that a collaborative PDS partnership is the ideal place to cultivate such an attitude of risk-taking.

Methodology

Since 2009, a large suburban school district and a large private university in central Texas have collaborated through PDSs. In this partnership, university students teach alongside experienced classroom educators during their coursework and clinical student teaching experiences. The mutually beneficial model serves to provide practical experiences for pre-service teachers, as well as on-going professional development for in-service teachers. This pilot study took place in the context of this long-standing partnership between the university and the school district, embodying NAPDS Essential 5 Research and Results.

The unique context for this study occurred during fall 2020 and spring 2021 when public schools were attempting to address COVID mitigation strategies. Many partnerships eliminated field experiences for pre-service teachers; however, the long-standing partnership in this study maintained a commitment to engage pre-service teachers in the instructional process. Three elements combined to create an environment of experimentation: schools...
implemented both remote and in-person learning; the Texas Education Agency suspended state assessments; and educators changed instructional strategies. Rather than eliminate pre-service teachers from this context, the partnership continued to place pre-service teachers with mentor teachers, providing both the opportunity and support to try new instructional approaches. Addressing the challenges of COVID mitigation together illustrates the depth of collaboration among the partnership. It also provided a scenario in which both pre- and in-service teachers could experiment freely. After witnessing the year of experimentation, members of the partnership hoped to capture how teachers felt about the challenges of trying completely new approaches to teaching and learning. Taleb (2012) might characterize the uncertainty of the year as an opportunity because “the antifragile grows from disorder” (p. 38).

This study sought to explore the development of risk-taking in the classroom as a means for developing antifragile teachers and the support of instructional risk-taking in the classroom. During fall 2021, the following questions were used to gather data to establish some initial insights about the risk-taking instructional choices of both pre-service and in-service teachers. The data would be used to inform programmatic modifications that would support risk-taking in efforts to impact opportunity gaps faced by students.

The pilot study addressed the following research questions:

RQ1. What does it look like for teachers to be risk-takers in their classrooms?

RQ2. What prevents teachers from taking instructional risks in their classrooms?

RQ3. What supports do teachers need to be able to feel comfortable taking risks in the classroom?

The study consisted of 11 participants, including four pre-service teachers who were enrolled at the university and seven in-service teachers who were employed on active PDS campuses within the school district. Each participant was preparing to teach or was currently teaching middle grades mathematics. Except for one male in-service teacher, all participants were female. The participants’ number of years of professional experience ranged from pre-service teachers with 0 years of experience to a veteran teacher with over 30 years of experience.

During the fall of 2021, each participant engaged in a 45–60-min semi-structured interview. Interviews took place virtually over Zoom, were recorded and transcribed. Participants responded to the following questions:

(1) As teachers, we often encourage our students to take risks in the classroom. What does it look like for teachers to be risk-takers in their own classrooms?

(2) Do you think it is important for teachers to take risks in the classroom? Why or why not?

(3) What prevents you from taking risks in your own classroom?

(4) Describe a time when you have tried something new and different in your classroom. How did it turn out? How did the experience impact your willingness to continue taking risks?

(5) What support is needed for you to be able to feel comfortable taking risks in the classroom? (i.e. personnel, materials, administrative support, etc.)

(6) Describe an instructional/teaching environment that is most conducive to developing risk-taking teachers.

Transcriptions were analyzed using NVivo. The initial researcher identified participants’ statements and coded them based on three established categories: core elements of risk-taking,
Findings

Findings are reported as generalizations across levels; variations are identified in the narrative. Details of each finding are included below.

Core elements of risk-taking

Overwhelmingly, responses from both pre-service and in-service teachers suggest belief in the importance of instructional risk-taking in the classroom. Participants identified risk-taking in the classroom as a way to promote their own professional growth. One participant noted, “the only way you grow as a teacher is by taking risks and trying new things.” This notion is highly consistent with Taleb’s (2012) definition of antifragility, which he compares to physical exercise, where improved physical development is contingent upon working beyond the current fitness level. In addition, instructional risk-taking serves as a model for students. Another participant said, “If I’m not putting myself out there, then I can’t be empathetic to the kids trying new things and struggling through that process. . . . You can’t really be compassionate with their struggle without going through it yourself.” According to study participants, risky activities include lessons in which students discover phenomena for themselves. For example, one participant described a lesson in which sixth-grade students discovered the mathematical formulas for finding the circumference and area of circles. The participant described that, although it is often easier to simply provide the formula, her students benefited from the classroom discussions that took place throughout the discovery activity. She stated, “It really was cool to see their light bulbs go off and I feel like it gave them a lot of confidence.” In another classroom of eighth-grade students, students made real-world connections with scatterplots and lines of best fit through an activity involving a delivery company. The teacher recalled that the data was “messy, but so much more meaningful because it was real life.” In addition, the participant cited that students were able to make significant connections about the meaning of slope and y-intercept through the activity. In both instances, as well as others described by participants, classroom control was shifted from the teacher to the students in favor of them leading and guiding classroom discussions.

Another common component of risk-taking as defined through the pilot study is simply engaging in new and unfamiliar instructional strategies. One participant described risk-taking as “any time you give up some control to try something different.” Some participants described the use of new technologies as risky while others noted the transition from rows of desks to small group seating as risky. One pre-service teacher said, “Everything I do is a risk because I’m new at this. I never know how things are going to go.” In this way, risk-taking looks different for each individual depending on the context, amount of experience and comfort in the classroom. Differences in the perceptions of risk are consistent with Taleb’s (2012) conceptualization of antifragile, which is “relative to a given situation” and should not be considered an absolute property (p. 40).

Barriers to risk-taking

Although pre-service and in-service teachers described the importance of risk-taking in the classroom, they identified two main barriers to implementing instructional risks: lack of time and fear of failure. Compared to pre-service teacher participants, in-service teachers more frequently identified the lack of time to plan, prepare and implement new lessons to support more risk-taking in the classroom as a significant barrier, which is compounded by the
pressures of high-stakes standardized testing. One in-service teacher said, “There’s obviously this looming test that comes at the end of every year, so every failed lesson is wasted time. We never have enough time to get through our objectives as it is, so it’s obviously difficult to try something that may not work.” Another participant echoed these sentiments, stating “time is 100% the biggest barrier that prevents me from taking risks.” Participants, under constant pressure to teach every standard, frequently recalled feeling the need to succumb to traditional routine teaching methods that were perceived to maximize instructional time.

Both in-service and pre-service teachers identified fear of failure as another significant barrier to instructional risk-taking. A common thread among pre-service teacher participants was the insecurity that comes with a lack of classroom experience. One pre-service teacher shared, “I feel like if I mess up, it will make me look bad in front of everyone. It’s super scary to feel like that.” For in-service teachers, on the other hand, fear of failure was more typically related to standardized test preparation. These participants often noted that they wanted to ensure their students were prepared for high-stakes testing, favoring “teaching to the test” over risk-taking behaviors. Both in-service and pre-service teacher participants reflected on their reluctance to relinquish control over how knowledge is delivered. Direct-teaching methods, note-taking, and guided practice are less “risky” because more control remains with the teacher. One participant stated, “I’m not sure the kids will get what they need if they are in charge.” Overall, in-service and pre-service teachers alike are fearful that risky activities will not result in student learning or achievement and thus are quick to rely on traditional methods that may have been successful in the past. Reluctance to act due to fear is characteristic of fragility (Taleb, 2012).

Needed support for risk taking
Responses from the study revealed three supports that would strengthen the ability to take risks in the classroom: administrative support, intentional collaboration, and adequate training and resources. First, participants expressed the need to feel as though administrators supported a culture of risk-taking. One participant noted, “I need to have a principal or evaluator that understands that risky lessons may not always go perfectly and be okay with that.” The participant continued, by stating, “A risky classroom might often be louder, messier, and seemingly more chaotic than a traditional classroom.” Pre-service teacher supervisors and school administrators should be proponents of instructional risk-taking and supportive of teacher efforts to include innovative classroom strategies. Both in-service and pre-service teachers cited a need to feel empowered by school administrators and teacher educators to support risk-taking in their classrooms.

Secondly, teachers recognized that the complexities of teaching and implementing best practices are too much to carry individually. For this reason, both pre-service and in-service teachers expressed a need for intentional time to collaborate, build and implement lessons and reflect on teaching experiences within professional learning communities. These collaborative efforts take time – time that is often not provided. Overwhelmingly, the participants in the study supported the idea of risk-taking in the classroom; however, they expressed a desire for intentional and effective communities with which to plan and prepare innovative lessons, as well as adequate time to engage within these communities. “It would be so much easier if I didn’t have to do it alone,” one participant said.

Finally, teachers described a need for adequate training and resources on how to best implement innovative classroom practices. Professional development, practical examples, and instructional support in the form of coaching were all mentioned as methods of supporting teachers’ ability to take risks in their classrooms. One participant said, “It would be nice to have some examples of activities I could use with students that were focused on them discovering the math.” Another argued, “So much professional development is a waste.
Some targeted support and ideas of innovative teaching strategies would be very helpful.” With the lived experience of COVID, teacher participants seemed more willing to seek out the support they needed to continue risk-taking in their classrooms. Many recalled actively seeking out new resources that better supported student-centered learning through both virtual and in-person professional development. Others expressed an interest in participating in instructional coaching cycles as a form of professional growth that would increase instructional risk-taking and positively impact student engagement and achievement.

**Discussion**

Both pre-service and in-service teachers cited a fear of failure as the most significant barrier to instructional risk-taking. This is notable because it is indicative of the insecurity that is often present in pre-service teachers (Childs & Glenn-White, 2018) and is a characteristic of fragility (Taleb, 2012). For pre-service teachers, a lesson that does not go according to plan could be seen as catastrophic. They do not want to be seen as incompetent or incapable by their students, cooperating teachers, or supervisors. Although experiences of failure can be difficult to navigate, they are critical in the personal and professional development of pre-service teachers (Danyluk et al., 2021). Taleb (2012) would argue that “every failure provides additional information, each more valuable than the previous one” (p. 253). Pre-service teachers must understand that failure is simply part of the learning process, just as it is for their students and that they never fail alone, but in community with other educators.

Experienced teachers, on the other hand, largely understand that failure is a common experience. Even the best-written and best-intentioned lessons can (and do) go awry. Even with this mindset, in-service teachers seemed hesitant to implement non-familiar instructional strategies due to the pressures of student performance on standardized tests. Teachers reflected on their reluctance to relinquish control over how new content is taught to students. However, teaching virtually during COVID forced teachers to give the control of learning to the students. Teachers found that by giving student-centered tasks and independent learning opportunities to their students during the virtual learning period, they had more time to work in small groups with the students that needed more support. According to one teacher, teaching virtually and without the pressure of state testing created an environment that was “essentially risk-free.” Although the teacher, during this period, was continually implementing new instructional strategies, he was able to work in an environment in which he felt safe to experiment and free from the pressure of student performance. This is indicative of the importance of a school culture in which instructional risk-taking is supported by administrators and teachers.

When in-service teachers and PK-12 students were forced to move their lessons to the virtual world in the spring of 2020, teachers seemed to find the empowerment and confidence they needed to take risks in their teaching pedagogy. The freedom from state assessments allowed them to flip the learning from teacher-centered to student-centered. Traditionally, classroom teachers are seen as the ultimate dispensers of knowledge while students passively receive knowledge. Risk-taking instructional strategies work to overturn this dynamic. Instead of ultimate control residing with the teacher, control is given to students and allows them to explore and discover phenomena for themselves. This transfer of control leaves teachers in an exposed and often uncomfortable place. The interviews in this study revealed that experienced teachers are more comfortable in that vulnerability while novice teachers are not comfortable making mistakes, wanting to prove themselves as competent educators; however, both in-service and pre-service teachers were hesitant to relinquish control and take a risk with students taking more ownership in their learning. When pre-service and in-service teachers are transparent about trying new strategies, they show students the value in trying new things, as well as model how to persevere when the risk does not go as planned. In this
way, novice and experienced teacher partners embody Essential 3 Professional Learning and Leading as they engage in instructional risk-taking and cultivate a culture of risk-taking within the classroom.

Although both subsets of participants were unanimous in their support of instructional risk-taking, participants cited a preference to take risks they perceive as “safe.” Activities that have been tested in classrooms or that are explored in professional development sessions are ones that are most likely to be implemented in classrooms. Similarly, in-service teachers prefer professional development that is immediately practical and provides useful classroom resources (Cooke & Francisco, 2020). This begs the question: Is there a disconnect between actual risk-taking and implementing “risky activities”? Are teachers really taking risks if they are simply implementing a pre-packaged lesson? The apparent disconnect between the teachers’ verbal support for risk-taking and their actions would indicate a lack of “doxastic commitment, a class of beliefs that go beyond talk, and to which we are committed enough to take personal risks” (Taleb, 2012, p. 31). These questions are worthy of further exploration and study.

Value and suggestions for future research
The practice of risk-taking, while perhaps uncomfortable, holds great potential for student learning and engagement, as well as in the development of antifragile educators. The findings of the pilot study reveal important implications for university teacher preparation and PDS partnerships while suggesting avenues for more comprehensive future study. Pre-service teachers repeatedly expressed feelings of insecurity while working in their clinical experiences. Although some of this is natural and to be expected, efforts should be made to develop a culture of risk-taking within the university and preparatory settings. Addressing the value of failure, as described by Taleb (2012) would be critical in developing antifragile teachers. Pre-service teachers must be encouraged to experiment with new strategies and supported by their supervisors and cooperating teachers during the implementation of those strategies. Experienced teachers expressed more confidence in adapting when lessons go awry, a skill that would be helpful for novice teachers to develop as well. The relationship between the cooperating teacher and the pre-service teacher could prove instrumental in this development. These ideas are the embodiment of Essentials 2 and 3, Clinical Preparation and Professional Learning and Leading, respectively. Through authentic partnerships between novice teachers, university faculty and PDS campus faculty, a culture of risk-taking can be cultivated through mutual support.

In addition, the partnership between novice and experienced teachers must be such that the novice teacher is fully a part of the planning processes with their cooperating teachers. The partnership must be provided time to meaningfully collaborate together and within the professional learning community. This intentional time is critical in supporting the implementation of instructional risk-taking (Cooke & Francisco, 2020) and supports Essential 2, Clinical Preparation. Taleb classifies time as “functionally similar to volatility: the more time, the more events, the more disorder” (Taleb, 2012, p. 28). Therefore, time is a critical aspect of differentiating antifragile teachers. Intentional and meaningful collaborative efforts are essential in supporting both novice and experienced teachers as they work to take more risks in the classroom.

Affolter et al. (2022) describe classroom cultures that are conducive to student risk-taking as ones in which time is dedicated to co-creating norms and vision. The same is true for university and school partners. Educators in PDS schools and university partners must share a common culture. If one entity pushes for one sort of instruction while the other advocates for something different, a tension is created that can stunt the growth of the pre-service teacher, cooperating teacher and students. If instructional risk-taking is a priority, then it must be supported throughout the partnership; it must become part of the shared culture. This study suggests that school and university leadership must work together to develop a shared culture and find ways of supporting a culture of risk-taking.
Based on the findings of the pilot study, future research efforts in the area of risk-taking should focus on the following questions:

1. What is the relationship between true instructional risk-taking and the implementation of pre-packaged, student-centered lessons?

2. What forms of professional development can support university and school partners as they seek to develop a culture of instructional risk-taking?

3. What impacts can instructional risk-taking have on classroom culture and student performance?

4. In what ways might the concept of antifragility inform teacher preparation partnerships?

The educational landscape is continually changing, necessitating teachers who are able to adapt in their own classrooms, as well as support pre-service teachers in their clinical experiences. Through continued study, researchers can gain critical insights into how to best support teachers in these endeavors.

**Conclusion**

Risk-taking is a vital attribute of successful teachers in the modern era. For pre-service teachers, the development of an attitude of risk-taking prepares them to enter a field that is dynamic and ever-changing and helps them to become antifragile. For in-service teachers, an attitude of risk-taking refreshes instruction and fosters growth. As we move into a new era of schooling, it is imperative that educators are able to be adaptive and innovative in their instruction. This means that educators must be willing to continually reflect on their practice and experiment with new strategies and technologies. Gone are the days when a lesson could be implemented year after year with little to no change. Instead, antifragile teachers are able to cope with uncertainty, refreshing instruction to best meet student needs, even if that means trying something they have never done.

Risk-taking, however, leaves teachers vulnerable to lesson failure and questions from colleagues. Although teachers largely support the importance of risk-taking, they want to remain protected from critique and perceived failure; they feel fragile. They believe they would take more risks if they were protected. They want instructional risks to come bubble-wrapped—protected from the consequences of risk. What can teacher educators and university partners do to help remove the bubble wrap and introduce authentic risk-taking in the classroom? This study identifies areas that a PDS campus in particular could work to address as they prepare antifragile and risk-taking professionals. Understanding how classroom educators perceive risk-taking, addressing the barriers to risk-taking and formally supporting authentic risk-taking can begin to remove the perceived fragility and empower educators to freely and confidently experiment in their classrooms.

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**Further reading**


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