Leadership Support in Deeper Learning Schools

CARIE SPANNAGEL

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Advisor: Dr. Erin Henrick

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Be strong and courageous. Do not be afraid; do not be discouraged, for the Lord your God will be with you wherever you go. Joshua 1:9

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Executive Summary

School district leaders across the country face enormous challenges in preparing students to be citizens in the 21st-century world. As society and technology change rapidly, a continued focus on the ability of school systems to catch up with industry remains a focus. Deeper learning is an umbrella term used to encapsulate the move from acquiring basic knowledge to a deeper understanding of concepts and has become imperative in supporting the development of students' future-ready skills (William and Flora Hewlett Foundation, 2013). Through deeper learning, students transfer knowledge and skills to new situations to solve complex problems (National Research Council, 2012) while developing interpersonal and intrapersonal skills (Mehta & Fine, 2015, 2019).

As school district leaders seek to meet the needs of the modern workforce and transform schools, a focus on leadership development becomes essential for school improvement. Second to classroom instruction, school leadership is a large contributor to improving student and school outcomes (Leithwood et al., 2004) and may affect student outcomes more than initially thought (Grissom et al., 2021). School district leaders often seek the assistance of intermediary organizations to help with this leadership development.

The New Tech Network serves as an intermediary for school district leaders who want to improve the teaching and learning practices in place in their schools. The New Tech Network partners with school district leaders to create deeper learning strategies centered around their four design pillars of "teaching that engages, culture that empowers, technology that enables, and outcomes that matter" (J. Adams & Duncan Grand, 2019, p. 3). Through a focus on the work of New Tech Network's School and Leadership Development team, this capstone project was designed to answer three primary questions:

- What are the New Tech Network's goals for campus leaders leading deeper learning work?

- What skills and behaviors do principals need to lead New Tech Network schools?

- How does the New Tech Network support leadership development within their model?

The conceptual framework for supporting principals leading deeper learning schools centers around two main concepts—what principals in New Tech Network schools need to be able to know and do and how they acquire this knowledge (Darling-Hammond et al., 2007). The conceptual framework merged instructional leadership (Hallinger & Murphy, 1985, 1986) and the transactional and transformational leadership models (Leithwood et al., 1999) with effective principal skills and behaviors for improving student and school outcomes (Grissom et al., 2021) to help understand what principals should know and be able to do in deeper learning schools. Centering on the best way for principals to learn this information, the framework includes a high-quality principal professional learning framework that outlines the type of delivery and content within principal learning experiences (Levin et al., 2020). These theoretical theories merge within the context of deeper learning where students can transfer knowledge to new situations to move them away from being consumers of information to becoming creators and problem solvers (Mehta & Fine, 2015, 2019).

Using a mixed-methods study design, I conducted semi-structured interviews with New Tech Network staff members and collected various New Tech Network documents. The following key findings emerged from an analysis of the semi-structured interviews and documents:

1. New Tech Network team members described varied goals for campus leaders that align with NTN Leadership Competencies.

2. New Tech Network team members described skills and behaviors that align with key aspects of instructional, transformational, and transaction leadership practices that support deeper learning.

3a. The New Tech Network supports campus leaders through a variety of supports differentiated by principal experience, number of NTN schools within a school district, and phase of implementation.

3b. Leadership supports align with effective principal leadership skills and behaviors for deeper learning schools.

4a. The New Tech Network provides campus and districts leaders access to high-quality principal professional learning.

4b. The New Tech Network designs professional learning content based on coach and leader feedback.

The following recommendations are correlated to the project's findings and supported by research:

- Create consensus around the NTN Leadership Competencies as New Tech Network's goals for leaders. Using the NTN Leadership Competencies, create a multi-year strategic plan for leadership support.

- Create a leadership cross-functional design team consisting of New Tech Network leaders and school personnel to guide the leadership work of the network.

- Create a Leadership Institute for new leaders on campuses in year four and beyond to support their leadership development.

- Continue to develop professional learning content that supports the leadership development of instructional, transformational, and transactional skills.

- Continue developing the coach's ability to work with campus leaders, especially if they have never been campus leaders themselves.

Though this project centered around the New Tech Network and how it supports district and campus leaders, other intermediary organizations and school district leaders can find value in using the findings and recommendations to develop leadership support in schools implementing deeper learning practices.

Leadership Support in Deeper Learning Schools

School district leaders across the country face enormous challenges in preparing students to be citizens in the 21st-century world. As society and technology change rapidly, a continued focus on the ability of school systems to catch up with industry remains a focus. Students now enter schools in what experts have labeled the Fourth Industrial Revolution (4ID), which requires students to possess different skills than were needed in any previous revolution (Schwab, 2017).

Every industrial revolution influenced and shifted society in some way or another. The first revolution introduced mechanization and steam power, whereas the second provided electricity and mass production (Schwab, 2017). The third revolution brought computers, the internet, and automation. Building on these three previous revolutions, the Fourth Industrial Revolution (4ID) is marked by the use of cyber-physical systems that push the interdependence of the digital, physical, and biological spaces (Schwab, 2017; Xu et al., 2018), giving the feeling of a science fiction novel more than reality. Ultimately, there is no precedent for the speed at which society has entered into the 4ID, disrupting every industry worldwide (Schwab, 2017; Xu et al., 2018), including education. If this rate of transformation continues, the society in which current kindergarten students will graduate will be vastly different, requiring a different skill set than that possessed by any other generation in the world's history. Leaders of today's school systems must meet this challenge by forecasting the knowledge and skills students will need and making a shift from knowledge consumption to complex problem solving.

Leaders of many school districts are exploring innovative solutions to meet these demands, emphasizing transforming their schools to meet industries' current and future needs. Deeper learning is emerging as an essential goal for school leaders in transforming learning environments to better teach students the skills they will need to survive in a modern 21st-

century world. Deeper learning is an umbrella term used to encapsulate the move from acquiring basic knowledge to a deeper understanding of concepts (William and Flora Hewlett Foundation, 2013). Students transfer knowledge and skills to new situations to solve complex problems (National Research Council, 2012). Combining cognitive rigor with interpersonal and intrapersonal skills provides students learning opportunities to transfer content knowledge and skills (Mehta & Fine, 2015, 2019) to new situations, allowing them to develop mastery in future-ready competencies. These competencies include academic mindset, content mastery, critical thinking and problem solving, collaboration, effective communication, and self-directed learning (Chow, 2010; Trilling, 2010; William and Flora Hewlett Foundation, 2013).

No school model, organization, or system holds the only key to deeper learning. Deeper learning occurs in many ways, allowing school leaders to embrace their unique community attributes and cultures. However, to qualify as a deeper learning experience, there must be a heavy focus on the learning trajectory and not a one-time experience (Mehta & Fine, 2019). To create an environment of deeper learning for students, school district leaders must create a system that maximizes, supports, and cultivates deeper learning experiences throughout students' educational careers.

In the search for ways to create these dynamic and innovative school environments, communities often seek the support of others. Numerous organizations, often referred to as intermediaries, partner with school district leaders to provide guidance and coaching surrounding the move to student-centered approaches. The New Tech Network is an example of one such intermediary supporting schools in which leaders and staff are engaged in deeper learning work across the United States. As a non-profit organization, New Tech Network provides planning, coaching, and support to leaders of schools and districts in implementing a deeper learning

model with a focus on transforming teaching and learning. There is a considerable focus on

supporting teachers and leaders to ensure high implementation success and increase students'

college and career readiness.

Principal leadership vastly affects the quality of the school experience for students and

staff and influences school outcomes (Grissom et al., 2021; Leithwood et al., 2004). Therefore,

schools in which staff are working on deeper learning need effective leadership that

comprehends the need to shift the traditional principal role. With an understanding of the

importance of effective principal and district leadership, the New Tech Network designed

leadership support to facilitate the growth of essential leadership skills. This capstone project

was designed to provide feedback on those leadership supports, the goals New Tech Network has

for growing leaders, and their current principal professional learning support.

To provide feedback on the New Tech Network's leadership support, I reviewed over 70

peer-reviewed pieces of literature on leadership models, principal professional learning, effective

leadership skills, and deeper learning schools. There is abundant research on leadership models

and teacher professional learning, though there is less research on the effectiveness of principal

professional learning (Goldring et al., 2012). Deeper learning in schools is emerging as an area

of research focus as inquiry instructional practices become more popular among school districts.

Inquiry instructional practices shift the teacher's role from the content provider to guiding

students to ask questions and make their own discoveries (Bell et al., 2005). Using existing

research, I created a conceptual framework for supporting leaders in leading deeper learning

schools by merging leadership models, principal skills and behaviors, principal professional

learning, and deeper learning fields of study.

After conducting semi-structured interviews and analyzing various New Tech Network events and documents, I identified four key findings. These key findings, along with five recommendations, can be used to support New Tech Network's School and Leadership Support Team in understanding and improving their leadership support. In addition, results of this capstone project can be used to provide guidance to other organizations that support school leaders, especially within deeper learning schools.

Organizational Context

As a non-profit organization, the New Tech Network is committed to transforming teaching and learning so all students are college and career-ready by the time they graduate high school. New Technology High School began in the mid-1990s as a single high school developed by a group of Napa California entrepreneurs in cooperation with Napa Valley Unified School District to increase the focus on essential work-based skills. The collaboration of these two entities enabled a public district school to center its practice around technology access, embracing a culture of empowerment, and using project-based learning instruction. Due to the success of New Technology High School, a group of educators created the New Tech Network with support from the Bill and Melinda Gates Foundation to assist other school district leaders who were interested in creating their own New Tech Network school model. The New Tech Network currently engages about 62 remote employees located throughout the United States and partners with K–12 schools and school districts across the United States and Australia to work toward comprehensive school change. The New Tech Network currently supports schools and school districts across 24 states representing a wide variety of geographical, socioeconomically, and politically diverse school settings (J. Adams & Duncan Grand, 2019).

New Tech Network's support is not a one-size-fits-all design approach; instead, New Tech Network partners with school district leaders to create a strategy for deeper learning that meets the school community's needs. Each school focuses on the four design pillars of the New Tech Network model (NTN model), including "culture that empowers, teaching that engages, technology that enables, and outcomes that matter" (J. Adams & Duncan Grand, 2019; Figure 1). The design pillars enable leaders of schools across the network to focus on similar deeper learning competencies while meeting the needs of their communities. Appendix A contains more information on the NTN school model.

Figure 1

New Tech Network's Four Pillars

Outcomes that Matter

Every NTN partner school adopts the five New Tech Network Learning Outcomes. The outcomes are: **Agency, Collaboration, Knowledge and Thinking, Oral Communication, and Written Communication.**

Teaching that Engages

Project-based learning (PBL) is the primary pedagogy all NTN teachers embrace in their classrooms. PBL requires contextual, creative, and shared learning. Students collaborate on meaningful projects in order to answer challenging questions. **By making learning relevant, students see a purpose for mastering state required skills and concepts.**

Culture that Empowers

Each NTN partner school promotes a culture of trust, respect, and responsibility, **encompassing student and professional culture.** Students and teachers alike have ownership over the learning experience and their school environment.

Technology that Enables

Echo supports project-based learning and features an innovative gradebook that **aligns to the deeper learning skills students are developing.** Digital tools, cultivated and aligned content, and a community of shared learning are integrated to create a powerful platform to support student and adult learning.

Note. Adapted from *New Tech Network Overview 2.pdf* by New Tech Network, 2020 (https://32dkl02ezpk0qcqvqmlx19lk-wpengine.netdna-ssl.com/wp-content/uploads/2020/11/New-Tech-Network-Overview-2.pdf). Copyright 2020 by the New Tech Network.

Four Design Pillars

The New Tech Network encourages the adoption of a shared leadership model for students and staff by promoting a "culture of trust, respect, and responsibility" (New Tech Network, 2020, The Four Pillars section). Students engage in collaborative student-centered learning environments that allow for student voice, support for social-emotional growth, and collaboration with peers and staff members. In addition, the staff engages in a professional culture that includes collaboration with peers in school-wide leadership and grade-level teams. Structures that support a learning organization include ongoing professional learning, shared planning time, and shared leadership. Focusing on building culture allows for the development of a professional environment for staff and students that enables students to learn deeply (New Tech Network, 2020).

The New Tech Network (2020) supports a teaching model that engages students through project-based learning, an inquiry-based instructional model that promotes engaging teaching and learning. Project-based learning enables students to engage in a meaningful curriculum that addresses societal issues and solves complex problems. Teachers develop projects focused on state standards and a range of essential skills. All projects provide collaboration for students and some type of exhibition of their work. Project-based learning provides teachers and students with an instructional model in which students see the relevance to learning. Although most work is collaborative, the NTN model focuses on developing individual growth through rigorous literacy activities. In addition to summative and formative assessments, teachers use rubrics to track student performance over time (New Tech Network, 2020).

NTN designed a set of learning outcomes to provide the skills students will need for college and career readiness (New Tech Network, 2020). Educators, researchers, and business

people developed the outcomes to designate essential skills. The New Tech Network (2020)

learning outcomes contain a focus on student agency, collaboration, written and oral

communication, and knowledge and thinking, as shown in Figure 2. More detailed definitions are

available in Appendix B. Staff in schools within the New Tech Network design lessons and

learning experiences for students to develop these essential skills. Each learning outcome has a

rubric so teachers and students can assess their growth in each outcome over time (New Tech

Network, 2021).

Figure 2

New Tech Network's Five Learning Outcomes

Note. Adapted from *New Tech Network Overview 2.pdf* by New Tech Network, 2020

(https://32dkl02ezpk0qcqvqmlx19lk-wpengine.netdna-ssl.com/wp-

content/uploads/2020/11/New-Tech-Network-Overview-2.pdf). Copyright 2020 by the New

Tech Network.

Students and teachers use technology to enhance the learning experience by using

technology as a tool in the NTN model. Technology enables students to develop digital literacy

in a 1:1 student to computer ratio (New Tech Network, 2020). Project-based learning allows

students to create, curate, and communicate, and technology enhances these skills. The New

Tech Network provides an online learning platform called Echo, a technology tool designed for a

project-based learning environment. Echo, the learning management system, provides a digital

space for project development, professional learning, and community building for teachers. For students, Echo houses their project resources, assessments, and assignments. The use of technology is intentional within the NTN school model (New Tech Network, 2020).

During this capstone project, the New Tech Network began a revision of its four design pillars as a part of its continuous improvement philosophy. The four original design frames are shifting to the following four focus areas:

- College and career-ready outcomes

- Supportive and inclusive culture

- Meaningful and equitable instruction

- Purposeful assessment

The transition into these four focus areas removed the spotlight on technology while providing a greater emphasis on purposeful assessment within the deeper learning environment. The additional changes provide more clarity on the NTN school model.

New Tech Network Teams

The New Tech Network consists of 62 employees within eight teams governed by an advisory and governance board. Employees live across the United States and work remotely. As school district leaders engage with New Tech Network services, three teams provide direct support to the organizations. These teams typically engage with school and district leaders based on where they are within the implementation of the NTN school model as shown in Figure 3. The District and School Development (DSD) team works with school district leaders to plan their New Tech Network school by identifying necessary services and products through the contract development phase. They hand off school support to the School and Leadership Support (SLS) team, which provides direct coaching support to schools in the first 3 years of

implementation and beyond. The Innovation, Learning, and Research (ILR) team supports all

schools throughout their time with the New Tech Network by providing access to surveys,

research-based practices, and new initiatives designed to improve student outcomes.

Figure 3

New Tech Network Support by Team Timeline

NEW TECH NETWORK TEAMS

The timeline shows which teams support schools throughout the implementation of their contract.

School & Leadership Support (SLS) Implementation Team works with schools in their first three years of implementation.

| YEAR 0 | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 & BEYOND |

District & School Development (DSD) Team works with schools prior to implementation.

School & Leadership Support (SLS) Sustainability Team works with schools that continue their contract past year 3.

Innovation, Learning, & Research (ILR) team supports all schools regardless of the year of implementation.
School & Leadership Support (SLS) Team works with all schools through their school and district leadership team.

Support for New Tech Network Schools

The New Tech Network partners with school district leaders to plan, design, and

implement deeper learning using the four design pillars. New Tech Network schools receive

support through all phases as part of implementing the NTN model. Support is provided to

school districts whose leaders are interested in implementing the NTN model, schools new to the

New Tech Network, and schools outside of their first 3 years of implementation.

Design Support

The District and School Development (DSD) team partners with school district leaders to assist in planning the vision for deeper learning in their community. During this initial phase, leaders participate in coaching sessions, tour existing New Tech Network schools, and participate in a readiness visit.

Implementation Support

Once schools are beginning to implement the NTN model, the School and Leadership Support (SLS) team provides support in the first 3 years of implementation. The SLS team designs workshops to support and explore leadership topics relevant to leaders and teachers. Each school is supported directly by a member of the SLS team who serves as their school development coach. New Tech Network coaches meet regularly with campus leaders and leadership teams to provide continued support throughout their 3-year implementation. In addition, school leaders receive direct support from the Senior Director of School and District Leadership as part of their onboarding process.

Continuation Support

Once schools have completed the initial 3-year implementation process, they move into a continuation contract. During this time, they have continued support from their New Tech Network coach and access to district-wide events, asynchronous materials, and communication platforms through the SLS and ILR teams. Schools can continue to contract with the New Tech Network to gain access to workshops or other professional learning experiences for their staff.

NTN Practices

In addition to implementing the entire NTN school model, some school district leaders choose to engage with the New Tech Network to assist with implementing deeper learning

instructional practices. This support enables school staff to ease into deeper learning practices by using the NTN learning outcomes and rubrics. Teachers and leaders participate in a series of workshops about developing student-centered instruction, goal setting, and using assessment for deeper learning practices.

Additional Leadership Support

All district and school leaders have access to ongoing learning opportunities for all campus leaders through various events, including Leadership Summits and the New Tech Annual Conference (NTAC).

Twice a year, campus leaders can engage in learning with their peers in a networking event geared toward school and district leaders called the Leadership Summit. The Leadership Summit occurs in the fall and spring and provides campus leaders and thought partners opportunities to engage in learning together geared toward leadership development. Due to the COVID pandemic, Leadership Summits held between 2020 and 2022 were shifted to a virtual experience. Leadership Summits include keynote speakers, choice sessions centered around leadership content, reflection time, and networking opportunities with other leaders. New Tech Network principals are encouraged to bring a thought partner or leadership team to engage in learning together.

NTAC is a way for all school and district employees to learn together and is typically hosted in the summer. Due to the COVID pandemic, NTAC shifted to a virtual conference for the 2020 and 2021 years. NTAC consists of an opening and closing keynote, choice sessions, and collaboration opportunities. New Tech Network educators design and host sessions to share best practices with other practitioners. NTAC provides all members of the New Tech Network community a chance to collaborate and reflect with each other.

In addition to events, leaders have access to asynchronous supports and a network-wide communication tool. Recently, the New Tech Network introduced Slack as a communication tool for community members. All New Tech Network school personnel have access to Slack and network-wide channels. Slack is heavily promoted and used during network conferences. Additionally, a leader can find additional resources through the NTN Help and Learning Center, including asynchronous learning and support. A specific NTN Leadership Quick Guide is available to support campus principals implementing the NTN model. The guide includes four modules centered around leading New Tech Network schools and introduces leaders to a set of leadership competencies, the history of the NTN model, and leadership tools.

Problem of Practice

Focusing on campus leadership is imperative for school district leaders who are diving into deeper learning work. Traditionally, district and school leadership focused on the organization and management of operating schools with little focus on teaching. Second to classroom instruction, school leadership is a large contributor to improving student and school outcomes (Leithwood et al., 2004) and may affect student outcomes more than initially thought (Grissom et al., 2021). With an increased focus on the impact of campus leadership, there is a growing need to look at the roles and responsibilities principals play in schools and how to support their leadership development.

There is ample research on learner-centered instruction, effective teacher professional learning, and creating an equitable classroom culture, though there is minimal research and resources for principals engaging in deeper learning work on their campus. Much like the transition is difficult for teachers to engage in learner-centered inquiry instructional practices, it is difficult for a principal to support, encourage, and push for this type of change. Preparing for

deeper learning environments that do not exist is increasingly tricky (Cator et al., 2015), especially when operating within the existing confines of a school system. A leader must account for federal, state, and local policies and practices while moving their campus to a student-centered learning environment.

The NTN model accounts for principals' vital impact on transforming school and student outcomes with considerable principal support. Leaders of schools that are at the beginning of implementation agree to 3 years of network support. The New Tech Network team recently reexamined their leadership support for new schools and created a standardized approach that includes consistent workshop topics, coaching topics, and networking with other leaders. As an organization entrenched in research and guided by a continuous improvement mindset, the SLS team seeks to know how their current model supports campus leaders engaging in deeper learning work and where they might adjust to meet leaders' needs. Findings from this project were intended to assist New Tech Network teams in continuing to improve their leadership support.

In addition, this capstone was designed to provide information to support school leaders who work in deeper learning schools. Principal evaluators and supporters can benefit from using the findings of this project when developing high-quality principal professional learning to support student and school change. Leaders of school districts and other entities that support transformational systemic change in schools will value seeing what principals need to know in deeper learning schools and the best ways to acquire such knowledge.

Literature Review

In preparation for exploring leadership support in deeper learning schools, I engaged in the existing literature and found minimal research on principal support in deeper learning

schools. I expanded my search to include deeper learning, leadership models, leadership skills

for principals, and principal professional learning. The research on deeper learning clarified the

type of learning occurring in deeper learning schools and the qualities that make these schools

different from conventional schools. This literature review covers multiple leadership models

and the skills and behaviors needed to support the goals of deeper learning. Literature on high-

quality professional learning for principals provided guidance on best practices for both the

delivery and content. This section presents a review of the existing literature within these

categories.

Deeper Learning

The term deeper learning can be ambiguous as there are multiple possible meanings

(Mehta & Fine, 2015). Deeper learning is an umbrella term that encompasses students' ability to

transfer content knowledge to different situations (Mehta & Fine, 2019; National Research

Council, 2012). Students move away from being consumers of information and into creators and

problem solvers. Ultimately, deeper learning enables students to become content experts where

they can pull essential knowledge from multiple areas to solve new problems (National Research

Council, 2012).

The William and Flora Hewlett Foundation (2013) explored the future-ready skills and

essential competencies students need to be productive in the future workforce. These

competencies include academic mindset, content mastery, critical thinking and problem solving,

collaboration, effective communication, and self-directed learning (Chow, 2010; Trilling, 2010;

William and Flora Hewlett Foundation, 2013). Students do not magically possess or develop

these essential skills throughout conventional school without intentional practice and guidance

from educators (Wiersema & Licklider, 2007). Educators must provide learning experiences that

build students' understanding of core content and deeper learning competencies to support

students in transferring this knowledge to new situations and problems (Huberman et al., 2014),

which ultimately leads to a deeper understanding of the content. Deeper learning moves

educators away from the idea that more is better and toward the idea that going deeper within the

content provides students with proficiency in future-ready skills.

This change requires a shift in the understanding of learning as occurring at one point in

time to viewing learning as a trajectory (Mehta & Fine, 2019). Mehta and Fine (2019) defined

deeper learning as this transformation from conventional teaching, where learning is about the

mastery of one lesson, to the intersection of mastery, creativity, and identity within learning

environments.

Mastery refers to learners essentially becoming experts within the field of knowledge

they are studying (Mehta & Fine, 2015, 2019). Experts create schema and observe pattern

recognition for fields in which they have expertise. A student with in-depth knowledge of a topic

would be able to infer, create an argument, and conclude. For example, students who can offer

the causes and effects of the American Civil War would need to move beyond just memorizing

the key figures and events. For the analysis to be in-depth, they would use the factual

information to interpret and draw conclusions about the causes and effects of war.

Identity considers students' need to be engaged within what they are learning (Mehta &

Fine, 2015, 2019). Deep learning occurs when students adopt intrinsic motivation, often through

an initial interest in the topic. As they become more invested within their learning, they evolve to

see the activity or topic as part of who they are—as a part of their identity (Mehta & Fine, 2015,

2019). For example, a child might play and explore the drums and determine they have an

interest in playing the drums. They might have a music teacher who provides instruction and

guidance as the child continues to practice. Eventually, the child improves to a place where they are creating their own music. During this shift, they move from the idea that they play the drums to seeing themselves as a drummer. The identity of deep learning provides learners with the relevance and authenticity to engage within their passions.

Creativity is the shift when knowledge transfers to a new situation or problem where students can act or produce something new based on what they have learned (Mehta & Fine, 2015, 2019). Ultimately, creativity is the part of deeper learning that refers to the ability to transfer knowledge to new situations. It is the shift from acquiring knowledge to using knowledge within a specific domain (Mehta & Fine, 2015, 2019). For example, a student who studies how to analyze a screenplay would embrace creativity by writing their own screenplay. Deeper learning occurs when all three elements (i.e., mastery, identity, and creativity) intersect with each other (Mehta & Fine, 2015, 2019).

There are high expectations for the rewards that deeper learning promises, including student engagement and motivation. Education is known for the fast rollout of new initiatives, which often do not fulfill the change promised. Why deeper learning, and what does this movement promise schools and students where other initiatives have fallen short? Zeiser et al. (2014) compared deeper learning schools supported by a network and comparable conventional schools not focusing on deeper learning practices. Students in the deeper learning schools experienced better outcomes than their peers. They scored higher on standardized tests, reported more positive intrapersonal and interpersonal outcomes, and were more likely to graduate on time and enroll in a 4-year university. The study also showed low-performing students entering deeper learning high schools increased their postsecondary enrollment rates compared to their

peers in conventional high schools (Zeiser et al., 2014). The move to schools focused on deeper learning competencies shows promise for transforming student outcomes.

All the elements of deeper learning must be a part of the student experience to allow for mastery. Deeper learning does not just happen within a school without a systems approach from leadership. Therefore, principals in deeper learning schools must reevaluate their traditional role to support this type of learning.

Leadership Models

Campus leadership plays an essential role in improving student outcomes and the overall success of a school (Grissom et al., 2021; Leithwood et al., 2004). Though many factors contribute to a school's improvement, the principal is more influential in terms of school outcomes than any single teacher (Grissom et al., 2021; Leithwood et al., 2004). Traditionally, the principal's role included a heavier administrative focus on operational activities like creating master schedules, student discipline, and communication with stakeholders (Graczewski et al., 2009). However, modern schools need principals whose roles and duties look very different and who adopt a different approach to improving the learning environment. If a learning environment must be designed to guide and direct the procurement of new knowledge around instruction (Elmore, 2000), then a principal must positively affect the enrichment of classroom environments. A principal can do this by establishing a school climate that promotes learning, providing high-quality professional learning for teachers, and contributing feedback to improve their practice (Grissom et al., 2013; Honig & Rainey, 2015; Sebastian & Allensworth, 2012).

With this transition in the principal role, it is not easy for principals to know where to focus their efforts to make an impact on their campus. Leadership models can assist in directing this change and provide leaders with much-needed skills. Throughout educational settings,

several leadership models have emerged, including instructional leadership (Hallinger, 2003; Hallinger et al., 2020; Hallinger & Heck, 1999; Urick, 2016), transformational leadership, and transactional leadership (Leithwood et al., 1999). Although there are various opinions on which leadership style is the most effective for campus leaders, both instructional and transformational leadership have a rich background in principal development and increasing principal effectiveness.

Transactional Leadership

Transactional and transformational leadership emerged early in the business literature as two forms of leadership (Hater & Bass, 1988) that exist on a single continuum with transactional leadership on one end and transformational on the other (Bass & Avolio, 1993). The continuum reinforced the independence of each form with transactional on one end and transformational on the other (Bass & Avolio, 1993). Transactional leaders base success on a system of rewards and punishments, whereas transformational leaders embrace inspiration for change.

Transactional leaders are clear around employees' expectations and goals so employees know what the organization expects (Avolio et al., 1991; Bass, 1985). This clarity often results in followers achieving the expected performance levels (Avolio et al., 1991; Bass, 1985). Ultimately, administration punishes those out of compliance, which requires leadership to closely monitor mistakes and errors to take quick corrective action (Avolio et al., 1991; Bass et al., 2003). Campus leaders who embrace a transactional leadership style focus on supervision, organization, and compliance and spend time managing resources, including time budget, facilities, and people (Hallinger, 2003, 2005; Urick, 2016). This understanding of leadership resembles the principals of the past who spent little time outside of their offices. Their actions

tend to maintain the school's current performance by embracing the attitude that this is the way we have always done it or maintaining the status quo (Jung & Avolio, 2000).

Transformational Leadership

Transformational leaders embrace organizational movement toward a common shared goal and empower others in defining, exploring, and implementing actions toward this goal. Though transactional leadership may be sufficient for sustaining the status quo, transformational leadership contains a focus on building the capacity for organizational change (Jung & Avolio, 2000; Moolenaar et al., 2010) and empowering employees to become a part of the change (Avolio et al., 1991). Transformational leadership falls within four domains or characteristics referred to as the four Is: "inspirational motivation, idealized influence, individualized consideration, and intellectual stimulation" (Avolio et al., 1991, p. 13).

Inspirational Motivation. Leaders who embrace inspirational motivation inspire their followers by creating a shared purpose toward addressing challenges (Avolio et al., 1991). They use a sense of shared organizational purpose to bring others along and create excitement (Bass et al., 2003). Inspirational leaders use this passion and unity to drive their teams forward (Bass et al., 2003) while providing support and optimization in challenging times (Avolio et al., 1991).

Idealized Influence. An idealized influential leader has high ethical standards that followers value and trust (Avolio et al., 1991). They embrace and build referent power with others (Avolio et al., 1991). Followers see these leaders as role models and want to emulate their behavior (Bass et al., 2003). Ultimately, idealized influential leaders provide an example for others to emulate that grows the capability of others to lead themselves when needed (Avolio et al., 1991).

Individual Consideration. Leaders embrace coaching and follower growth by acting as mentors to each employee rather than focusing on a one-size-fits-all approach for all employees (Avolio et al., 1991; Bass et al., 2003). The leader evaluates where employees have gaps and provides opportunities for their growth (Avolio et al., 1991; Bass et al., 2003). A leader with individual consideration tries to remove blockades for followers that might inhibit their growth and development (Avolio et al., 1991).

Intellectual Simulation. Leaders who allow for intellectual simulation embrace followers' thinking and problem solving by encouraging creativity and innovation (Avolio et al., 1991). Leaders include employees in problem solving and encourage them to use logic and evidence over opinion when making decisions (Avolio et al., 1991). Followers do not fear making mistakes but are encouraged to learn from them. Followers are encouraged to move beyond a group-think mentality (Bass et al., 2003) and instead to come up with unique solutions.

Transformational Leadership in School. As the business world has embraced transformational leadership, so has the education realm (Griffith, 2004). Many principals assume transformational leadership to encourage school transformation and innovation (Moolenaar et al., 2010). Transformational leadership practices in schools have been shown to improve school culture and outcomes. Teachers within schools with transformational leaders are more likely to change their classroom practice (Leithwood & Jantzi, 2006; Leithwood et al., 1999), including taking more risks (Moolenaar et al., 2010). Transformational leadership within school settings diverges from the business model to account for the school context. Leithwood et al. (1999) developed a transformational leadership model for school leaders that includes nine dimensions as seen in Figure 4.

Figure 4

Transformational Leadership Model for School Leadership

Setting Directions	Developing People	Redesigning the Organization
Build school vision	Provide intellectual stimulation	Develop a collaborative school culture
Develop specific goals and priorities	Offer individualized support	Create structures to foster participation in school decisions
Hold high performance evaluations	Model desirable professional practices and values	Create productive community relationships

Note. (Leithwood & Jantzi, 2006; Leithwood et al., 1999)

The school leader must set the direction for the school by creating a shared vision, determining specific goals, and developing expectations around these goals (Leithwood & Jantzi, 2006; Leithwood et al., 2002; Leithwood et al., 1999). Transformational leaders build the capacity of stakeholders to embrace a higher level of commitment to shared school goals and support of structures that enhance the vision (C. Day et al., 2016; Leithwood & Jantzi, 2000). The work on shared leadership increases members' commitment toward the shared vision (Leithwood & Jantzi, 2006; Marks & Printy, 2003; Moolenaar et al., 2010).

Leaders must invest in developing their people, including focusing on the growth of individual teachers within the school and providing appropriate professional resources for teacher growth (Leithwood et al., 1999; Moolenaar et al., 2010). In addition, a transformational leader must redefine the organization by focusing on collaboration, identifying structures to

support the partnership, and developing relationships within the community (Leithwood &

Jantzi, 2006; Leithwood et al., 1999).

Although transactional and transformational leadership are on opposite ends of the

spectrum, the best leaders balance the transactional and transformational leadership styles

(Avolio et al., 1991; Bass & Avolio, 1993). Campus leaders cannot abandon transactional,

operational leadership tasks like balancing the school budget and maintaining human resources

practices. Instead, leaders should create a balance between the necessary operational duties and

the work of transformation.

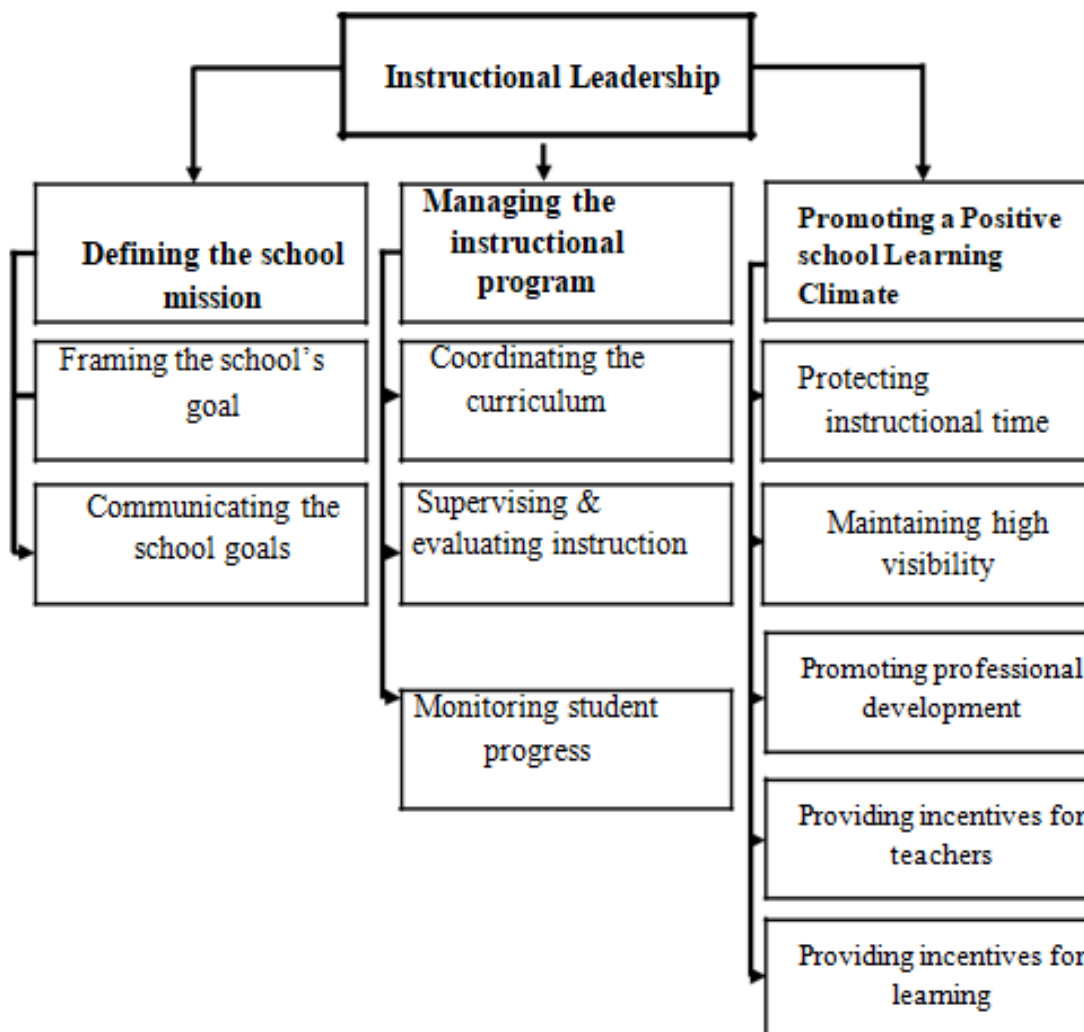### *Instructional Leadership*

Although instructional leadership is often not defined and can be ambiguous (Leithwood

et al., 2004; Rigby, 2014), there has been a continued focus on improving instruction in schools.

In a move from instructional directives and criticism within instruction, instructional leadership

promotes coaching teachers to improve their classroom instruction by creating collaborative

opportunities for teachers and administrators to engage in instructional conversations (Blase &

Blase, 2003; Marks & Printy, 2003). This leadership shift encourages a focus on the knowledge

and skills that create clear learning expectations in the classroom (Elmore, 2000). School

improvement cannot occur without focusing on instruction, causing instructional leadership to

remain a desired instructional model (Hallinger et al., 2020).

Although the many ways to interpret instructional leadership can cause grave differences

in the role of the principal and their practice (Rigby, 2014), one of the issues is understanding

which behaviors count toward checking off the instructional leadership boxes (Grissom et al.,

2013). Several frameworks have emerged to clarify instructional leadership for principals, with

Hallinger and Murphy's (1985) framework being the most known for focusing on principal

behavior that includes processes and functions. This version of instructional leadership contains

three main dimensions: "defining the school's mission, managing the instructional program, and

promoting a positive school learning climate" (Hallinger, 2005, p. 225). The dimensions

delineate into 10 functions of instructional leaders (Hallinger, 2003, 2005; Hallinger & Murphy,

1985, 1986). Figure 5 provides more details of each dimension and their connecting functions.

Figure 5

Hallinger & Murphy's Instructional Leadership Model

Note. (Hallinger & Murphy, 1985, 1986).

Defining the School Mission. Instructional improvement must begin with an intentional focus on what improvements teachers should be making. In schools, leaders are responsible for setting educational goals and communicating those goals to stakeholders. School goals should be clear (C. Day et al., 2016), measurable, and focused on student achievement (Hallinger 2003; Hallinger & Murphy, 1985, 1986). An instructional leader understands they cannot create the goals independently; instead, various stakeholders should provide feedback to develop the goals. School goals enable principals to properly focus resources and attention throughout the school year (Hallinger & Murphy, 1985, 1986). Once instructional leaders establish goals, they must communicate the goals to various stakeholders, including staff, students, and parents (Hallinger & Murphy, 1985). They must provide time and resources for staff to discuss school goals and continued progress, especially within instruction, curriculum, and budget (Hallinger & Murphy, 1985). Communication should take multiple formats, including informal and formal communication to stakeholders (Hallinger & Murphy, 1985).

Managing the Instructional Program. The leader's primary focus is on improving teaching and learning in the classroom (C. Day et al., 2016). An instructional leader should coordinate the curriculum, monitor student progress, and supervise instruction within managing instructional programs (Hallinger & Murphy, 1985). While the coordinating curriculum, a school leader aligns what is taught in the classrooms with assessment and ensures continuity across grade levels. As leaders monitor student progress, they must use standardized assessments to evaluate student growth. Instructional leaders provide time and lead discussions with different groups of teachers to analyze student growth and use the data for goal setting (Hallinger & Murphy, 1985). Supervising and evaluating instruction is essential for instructional leaders.

Principals must ensure school goals translate into classroom practice by providing teachers with

support and concrete feedback (Hallinger & Murphy, 1985).

Promoting a Positive School Learning Climate. Hallinger and Murphy (1985) defined

the school learning climate as "the norms and attitudes of the staff and students that influence

learning in the school" (p. 223). A campus principal influences the school climate in many ways,

including guarding instructional time, implementing incentives for teachers, supporting

professional development, and maintaining visibility within the campus (Hallinger & Murphy,

1985). By protecting time for instruction, principals create systems and enforce school-wide

practices that provide uninterrupted time for instruction (Hallinger & Murphy, 1985). This saved

time enables teachers to prioritize learning without worrying about sudden announcements or

interruptions disrupting learning. An instructional leader provides opportunities for teachers to

participate in professional learning experiences that connect to the school's goals (Hallinger &

Murphy, 1985). In addition, principals assist teachers in integrating the skills and knowledge

learned during professional learning into their instructional practice (Hallinger & Murphy, 1985).

Effective instructional leaders provide incentives for teachers and for learning within the

school. Principals should regularly recognize teachers for their efforts through public

recognition, formal honors, and private praise (Hallinger & Murphy, 1985). Students should be

recognized frequently for growth within their learning and achievement (Hallinger & Murphy,

1985). This recognition can be in front of their peers or privately. Instructional leaders must

maintain high visibility within classrooms and throughout the school (Hallinger & Murphy,

1985) or they will not know what instruction is happening in the classrooms. Informal classroom

walk-throughs provide the principal with information on classroom instruction and teacher and

student needs (Hallinger & Murphy, 1985).

Principal Leadership Skills and Behaviors

Although there is a push for principals to embrace the instructional leadership model, many say instructional leadership cannot remain the lone model (Leithwood & Jantzi, 2000). Part of the issue with adopting just one instructional model is there are very few consistencies in the implementation and definition of models (Urick, 2016) across the educational field. Part of what adds to these inconsistencies is the similarities between different instructional models (Hallinger, 2003). For example, both instructional leadership and transformational leadership emphasize clarity on a clear vision and shared goals in a school (Hallinger, 2003). The overlapping similarities might make it difficult for a principal to focus on one leadership model as a guide for reflection and improvement. C. Day et al. (2016) suggested there is value in using a mixed-methods approach and moving beyond promoting particular leadership models and instead looking deeper at the strategies and actions provided by these models. A blend of leadership styles and behaviors would benefit a practicing principal (Marks & Printy, 2003) while connecting more directly to their practice and development.

Grissom et al. (2021) suggested moving beyond just one singular leadership style and instead focusing on the principal skills and expertise that affect school outcomes. Through a meta-analysis emerged principals' characteristics, behaviors, and skills that can improve school and student outcomes. They identified three interconnected skill domains from broad themes in the research that influence leaders' behaviors within the school setting to change student outcomes: instructional support, organizational administration, and human development (Grissom et al., 2021). Figure 6 details the connections among these skills and behaviors.

Figure 6

Principal Skills & Behaviors for Improved Student and School Outcomes
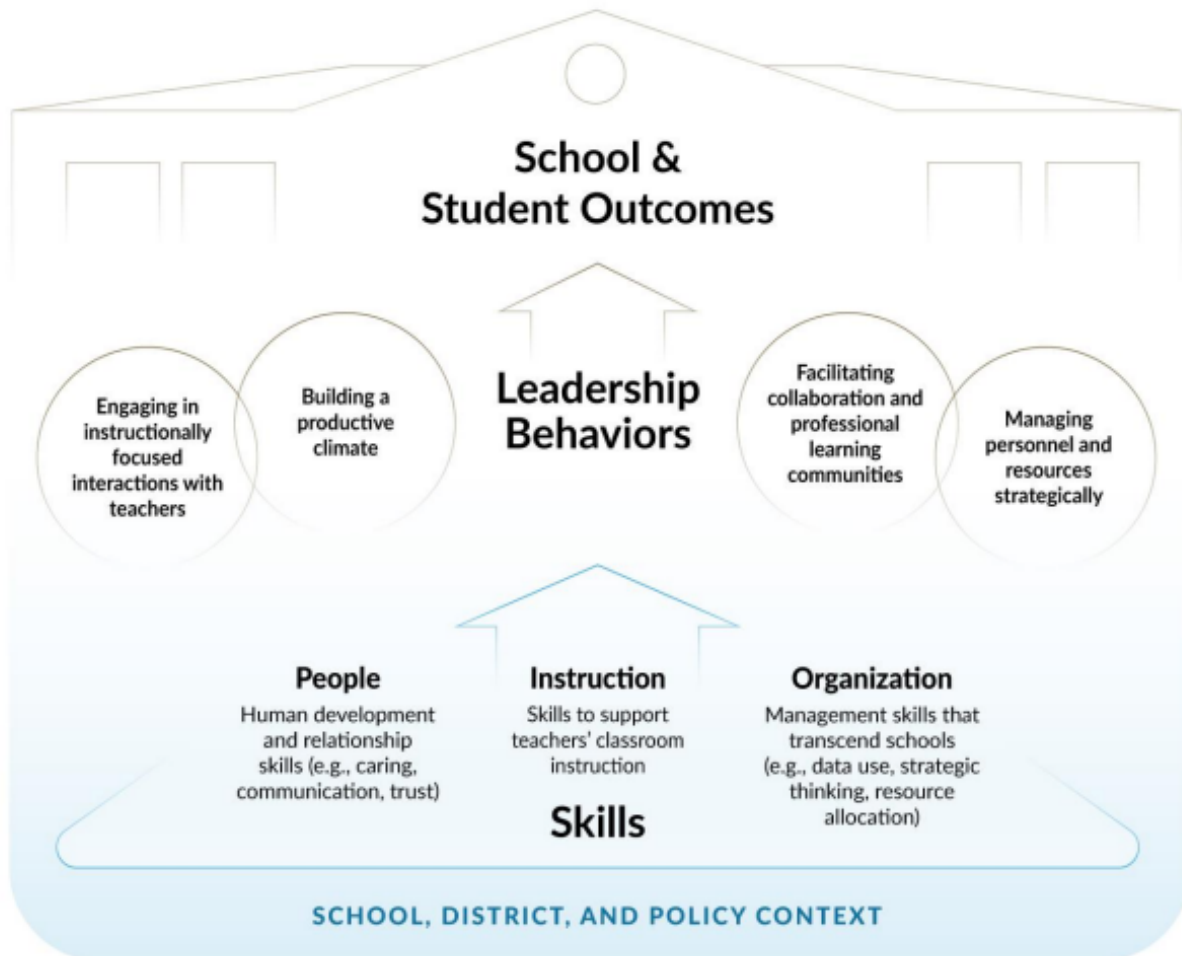
Note. (Grissom et al., 2021).

Leadership Skills

There are three interrelated relationships and human development skills: building trust, caring, and communication (Grissom et al., 2021). Stakeholders perceive effective leaders as caring for teachers and stakeholders in the school community. They can build positive relationships as they are effective communicators who cultivate interpersonal relationships to positively influence outcomes (Grissom et al., 2021). The third interrelated skill is the ability to develop trust with stakeholders.

Similar to instructional leadership, the instruction domain requires the school leader to be the critical sensemaker and proponent of high-quality instruction on the campus. Principals who focus on instruction can ensure teachers receive high-quality professional learning to enhance their instructional practices. Providing teachers with effective feedback assists them with refining their practice (Grissom et al., 2021) and provides opportunities for consistent improvement.

Influential leaders need management skills that can transcend schools (Grissom et al., 2021) and often are relevant to leading other organizations outside of schools. For example, effective leaders use strategic thinking, resource allocation, and data for decision making (Grissom et al., 2021).

Leadership Behaviors

Leadership skills are not enough to lead schools effectively, as leaders need to display behaviors that contribute to school and student improvement. Skills refer to what principals know whereas behaviors reflect what principals do (Grissom et al., 2021). There are four identified interrelated domains of behaviors that include "engaging in instructionally focused interactions with teachers, building a productive climate, and facilitating collaboration and professional learning communities, and managing personnel and resources strategically" (p. 58).

School, District, and Policy Context

School and district policy is the foundation within Grissom et al.'s (2021) model and affects principals' ability to engage in high-quality leadership behaviors and skills.

High-Quality Principal Professional Learning

There is a wealth of research on teacher professional development, but fewer studies have contained a focus on principal professional learning and development (Barth, 1986; Darling-Hammond et al., 2007; Grissom & Harrington, 2010). Instead, most research on principal

development has focused on principal preparation programs before they enter principal leadership positions (Grissom & Harrington, 2010). Many view the principal as providing and directing teachers' learning versus seeing them as learners themselves (Barth, 1986). The mentality held within the school community that the principal knows all the answers leaves little space for principals to explore and become learners. Principals share that spending time in professional learning for themselves is tough when they already feel there is never enough time to accomplish their daily tasks (Barth, 1986). Therefore, their learning takes a back seat to other operational tasks. Another barrier for principals participating in principal-specific professional learning is feeling it is unethical to use the funding for themselves (Barth, 1986). As the budget manager for the school, many principals think they should spend money on their teachers before spending it on themselves.

Therefore, if a school district does not provide principal professional learning, principals have fewer opportunities to find high-quality experiences specifically for their role (Darling-Hammond et al., 2007). When principals can participate in professional learning, they often participate in opportunities designed for teachers rather than learning designed for their own needs (Ikemoto et al., 2014; Rowland, 2017). Frequently, the principal-specific professional development centers around content for all while ignoring the individual needs of each administrator (Ikemoto et al., 2014; Rowland, 2017). A focus on high-quality professional learning for principals is imperative for school district and campus leaders to improve student outcomes. Principals can experience professional learning in various ways, but the different delivery modes of professional learning have implications for principal performance (Grissom & Harrington, 2010).

Levin et al. (2020) used previous research from the Learning Policy Institute (Sutcher et al., 2017) to develop a framework to reflect the interconnectivity of content and mode of principal professional learning. Figure 7 provides more details about the content and types of learning. High-quality professional learning should be job-embedded and authentic to the role of the principal (Goldring et al., 2012; Levin et al., 2020; Sutcher et al., 2017). Activities should include mentoring and coaching, networking with other principals, and applied learning opportunities (Levin et al., 2020).

Figure 7

High-Quality Principal Professional Learning
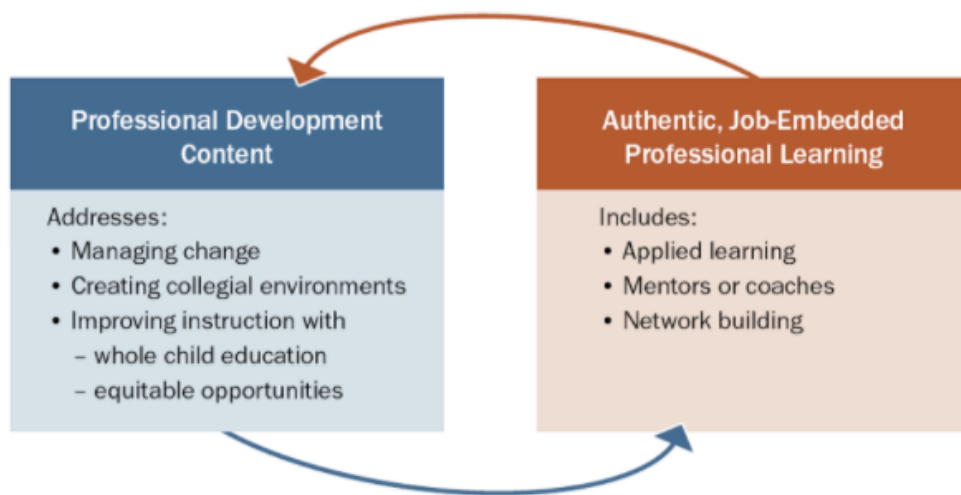
Note. (Levin et al., 2020).

Coaching and Mentoring

Mentorship, where an experienced principal supports and guides a peer principal (Barth, 1986; Grissom & Harrington, 2010), is the most used principal professional support (Johnston et al., 2016). Mentors assist with the day-to-day operations and challenges of being a principal and help their mentees work through complex problems (Grissom & Harrington, 2010; Hopkins-Thompson, 2000; Levin et al., 2020). In addition, mentors provide the space and time for

mentees to process experiences with another professional (Grissom & Harrington, 2010). The time dedicated to reflection on one's practice is relevant to principal improvement and development (Barth, 1986; Grissom & Harrington, 2010).

Both mentoring and coaching support principals in their improvement and professional growth. Mentoring typically provides support for a principal throughout their first years of being a principal. At the same time, coaching is mentoring that focuses on targeted skills over a specific period (Grissom & Harrington, 2010; Levin et al., 2020). A coach is highly skilled in assisting principals with identifying growth areas and providing guidance through a continual improvement process toward sustainable solutions (Goff et al., 2014). The coach and principal work toward individual areas of interest or a specific problem of practice, allowing for a customized approach to principal support (Honig, 2012). Both mentoring and coaching can be used to provide individualized support for principals throughout their careers.

Networks

High-quality principal professional learning is often most efficient when accompanied by support and guidance from other professionals (Kochan et al., 2002). Mentoring and coaching play an essential role in principal development; however, opportunities for principals to expand their professional network provide additional support and learning (Levin et al., 2020). Specifically, principals need access to principals in similar positions and time for collaboration (Darling-Hammond et al., 2007; Goldring et al., 2012; Grissom & Harrington, 2010; Peterson, 2002). There is a movement leading toward a trend of principal professional learning communities (PPLCs). Like teacher professional learning communities, PPLCs collaborate on instructional leadership to engage in challenging conversations (Honig & Rainey, 2015) and search for collaborative solutions. This reciprocal relationship benefits both the giver and

receiver by generating recognition and respect for each other (Barth, 1986). Principals who participate in PPLCs develop confidence and have a greater focus on high-quality instructional practices (Humada-Ludeke, 2013; Levin et al., 2020).

Applied Learning

Regardless of the method of high-quality professional learning provided for principals, the most successful will have activities related to leaders' knowledge base and role as a school leader (Goldring et al., 2012; Kochan et al., 2002). Principals find value in exploring various learning opportunities versus a one-size-fits-all approach (Goldring et al., 2012; Kochan et al., 2002). High-quality professional learning provides a continuous improvement cycle that benefits school leaders tremendously by focusing on their specific needs (Ikemoto et al., 2014; Jerald, 2012) and allowing time to share leadership practices with other principals (Levin et al., 2020). Providing time and resources for principals to reflect on their practice fosters motivation and increases involvement in learning (D. V. Day, 2000). Principals value time to meet with colleagues and work through context-specific content related to their role (Levin et al., 2020), as this enables them to be more prepared in changing their practice (Darling-Hammond et al., 2007). For example, spending time with other principals participating and calibrating on classroom observations assists in building their abilities as instructional leaders (Darling-Hammond et al., 2007; Levin et al., 2020). Ultimately, principals' learning must be something they participate in that is relevant to their position versus something done to them (Barth, 1986) for it to be effective.

Professional Learning Content

The content of principal professional learning is just as important as the delivery method. Principal professional learning content should include helping principals manage change,

creating environments with healthy collegial cultures, and improving instructional practices (Levin et al., 2020; Sutcher et al., 2017). High-quality professional learning for principals includes providing research-based and purposeful content, leveraging collaboration with others, and providing feedback and individualized content to meet the principal's identified needs (Rowland, 2017; Sutcher et al., 2017). Without focusing on high-quality professional learning content and methods, principals lack the support they need to improve their leadership skills and behaviors and ensure their continued growth.

Conceptual Framework

In this capstone project, I combined several theoretical frameworks to create the conceptual framework for supporting principals leading deeper learning schools, as shown in Figure 8.

Figure 8

Conceptual Framework for Supporting Principals Leading Deeper Learning Schools
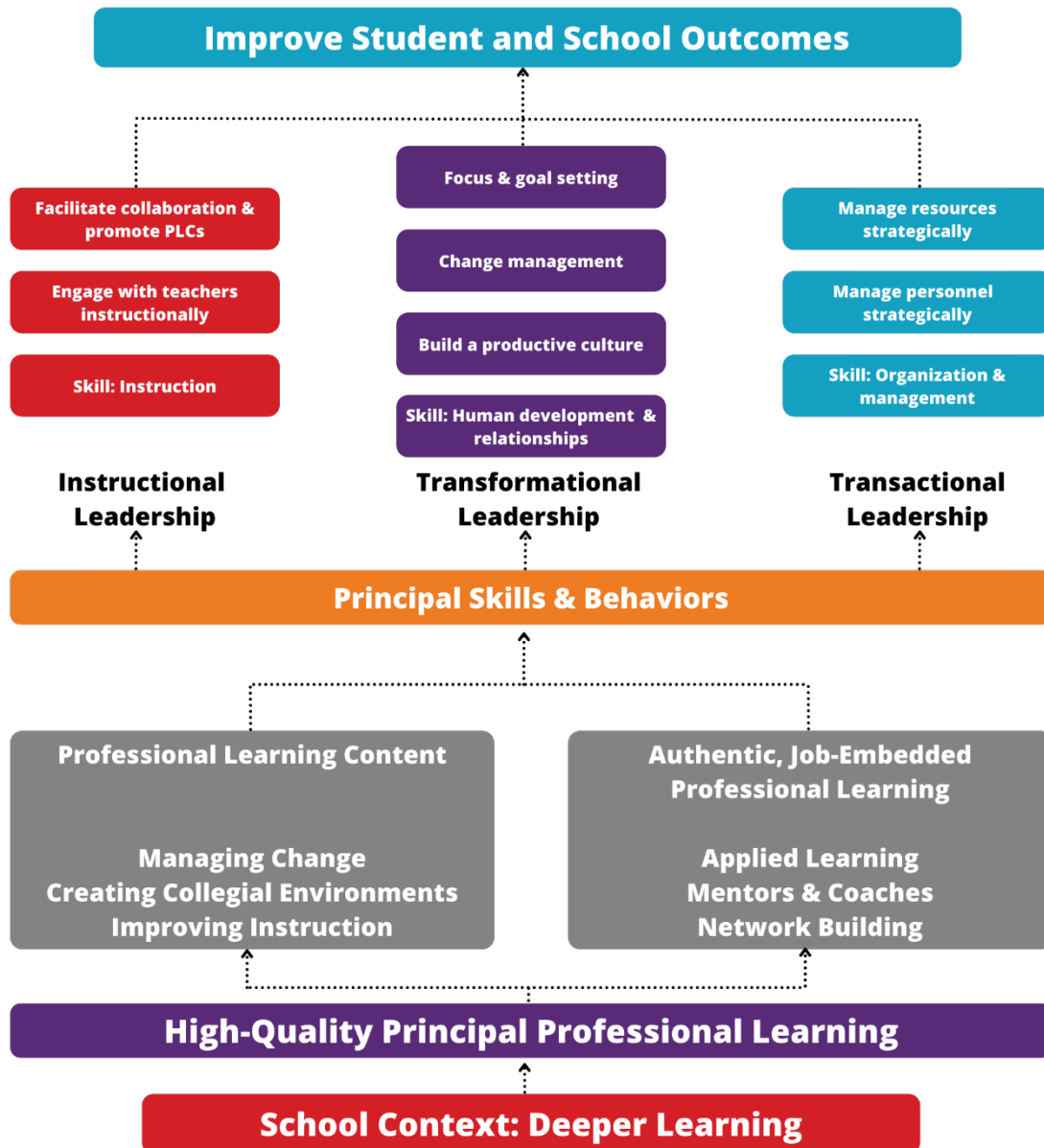
I created this project's conceptual framework by merging leadership models and essential

principal skills, behaviors, and high-quality principal professional learning theories through the

lens of deeper learning schools. Deeper learning schools, such as the schools the New Tech

Network supports, require a shift from conventional school practices to a focus on intentional

change management. The conceptual framework for supporting principals leading deeper learning schools merges the instructional, transformational, and transactional leadership theories with the principal skills and behaviors needed for organizational change to account for the shift in the principal role and assist with understanding what principals need to know and be able to do to influence their schools. Although the models overlap for both instructional and transformational leadership, this conceptual framework aligns the skills and behaviors closely with one of the models.

The bottom half of the conceptual framework focuses on how principals learn the skills and behaviors they need to lead deeper learning schools. Principals and principal supporters/supervisors need to provide high-quality professional learning that includes meaningful activities and content for principals. This project uses the framework designed by the Learning Policy Institute (Levin et al., 2020) that describes the type of professional learning experiences in which principals should engage to improve their practice. Professional learning events should include opportunities to work with others to build a network of support, using mentoring and coaching for principals, and engaging in authentic learning experiences that focus on the work of the principal (Levin et al., 2020; Sutcher et al., 2017). Professional learning content should focus on providing support in growing principals' abilities to increase their skills and behaviors that have the most considerable impact on school and student outcomes by providing ongoing access to high-quality principal professional learning.

Project Questions

I designed this quality improvement project to provide feedback on the New Tech Network's campus leadership support centered around two broad ideas—what principals in New Tech Network schools need to be able to know and do and how do they learn it (Darling-

Hammond et al., 2007). These two broad themes support the three project questions. The first

question aligned with the New Tech Network's goals for campus leaders in their deeper learning

model and determining whether there is alignment between staff. The second question provided

insight into what New Tech Network leaders believe are crucial skills principals need in deeper

learning schools. The third question centered around how the New Tech Network supports

leaders. Table 1 connects the project questions, conceptual framework, and data collection

methods.

Table 1

Project Questions, Conceptual Framework, and Data Collection

Project questions	Conceptual framework	Data collection
PQ1: What are the New Tech Network's goals for campus leaders leading deeper learning work?	Deeper learning Principal professional learning	Document analysis Semi-structured interviews
PQ2: What skills and behaviors do principals need to lead New Tech Network schools?	Deeper learning Leadership models Principal skills & behaviors	Semi-structured interviews
PQ3: How does the New Tech Network support leadership development within their model?	Leadership models Principal skills & behaviors Professional learning	Document analysis Semi-structured interviews

Project Design

In this capstone study, I used a mixed-methods model and combined qualitative and

quantitative methodologies to address the three project questions. For the qualitative analysis, I

recruited NTN employees to participate in semi-structured interviews to gain information about

the support provided to campus leaders, essential principal skills and behaviors, and high-quality

professional learning available to New Tech Network leaders. I used document analysis for both

qualitative and quantitative data. I collected existing documents from the NTN's Help Center website, internal coaching documents, and information from all leadership events for the 2021 year from employees. The purpose of gathering these documents was to determine the content of materials, professional learning events available to campus leaders, and how the New Tech Network supports leaders.

Semi-Structured Interviews

I conducted semi-structured interviews with New Tech Network employees. Semi-structured interviews allow the interviewer to use a predesigned set of questions to begin a conversation but enable the interviews to evolve as the discussions progress, allowing for a more conversational mode and exploration of important issues (Longhurst, 2016). Using the non-probability purposive sampling method to select participants for interviews, I emailed key leaders who support leadership at the New Tech Network (Appendix C). My first round of recruitment included three employees chosen based on their leadership roles within the organization. At the end of each semi-structured interview, I asked each employee to suggest someone else who knew about leadership support within the organization. I received eight additional names from the initial interviews. Using a set of criteria that included years of experience and job roles, I emailed seven people from the list. After several reminders and follow-up emails, I ended up interviewing a total of eight New Tech Network employees.

The New Tech Network is a small organization of 62 employees, and I had representation from the SLS, DSD, and ILR teams. I had representation from each team that supported the schools of my eight participants. During the length of my project, NTN made some organizational changes, so I noted the current team of which the participants were a part to ensure I maintained team representation. I interviewed five men and three women who had been

with the organization for between 3 and 13 years. All participants had previous classroom

teaching experience and four of the eight had campus or district leadership experience.

I created a semi-structured interview protocol (Appendix D) using my conceptual

framework as a guide to ensure consistency in the interview protocol and questions. Semi-

structured interviews blend closed and open-ended questions, allowing the interviewer to follow

up with why or how-type questions (W. C. Adams, 2015). I ensured the interview questions

aligned with my three main project questions and conceptual framework and supported the semi-

structured interview design. Through the semi-structured interviews, New Tech Network

employees also expanded upon their roles within the organization and the challenges and success

of supporting campus and district leadership in deeper learning schools. Table 2 illustrates the

connections between the primary interview questions and project questions.

Table 2

Primary Interview Questions Aligned With Project Questions

Project question	Interview question
PQ1	In your own words, describe NTN's leadership goals for campus leaders.
	What are your overall goals when working when supporting campus leaders?
PQ3	How does NTN support campus leaders?
	What are the supports that are in place as part of the leadership program?
PQ3	Where does a campus leader find additional leadership support outside of their coach?
PQ2	What skills do you think campus leaders need in leading deeper learning schools?
	What are the behaviors campus leaders need in leading deeper learning schools?
PQ3	How does your support differ based on the campus leader's experience?
	What are the successes and challenges of working with new campus leaders versus those with more experience?
PQ3	Do you support any schools that districts are engaged in the deeper learning work?
	What challenges and successes do you see in schools that are engaged in district work in deeper learning?

I conducted all semi-structured interviews using Zoom and enabled the recording feature. I imported all 5 hours and 53 minutes of audio files into Otter.ai, where I listened to all interviews to clean up the transcripts before downloading them into a Word document. I uploaded the transcript document files for each interview into Dedoose and assigned a participant number for confidentiality. Dedoose is an application that supports qualitative, quantitative, and mixed-methods research. I reread all transcripts and used attribute coding in my first round of coding. Attribute coding involves looking at important information and coding it, including participants' demographics (Saldaña, 2009). I began attribute coding by looking at the demographics of my participants to determine their role, gender, length of time in the organization, and professional background. Next, I reread all interviews and used structural coding connecting the semi-structured interviews to my project questions and conceptual framework. Saldaña (2009) explained that structural coding is foundational work based around specifically looking at applying conceptual phrases or specific content usually centered around a specific set of questions. I developed a list of initial codes from my project questions and conceptual framework, as shown in Figure 9. Because my questions centered around principal skills and behaviors explicitly derived from the research, I created a codebook to allow for clarification of each thematic code (Appendix E). I used simultaneous coding for specific codes due to the interconnectivity of the themes. Simultaneous coding occurs when a passage or phrase contains two or more codes specifically to detail its complexity (Saldaña, 2009). Second-cycle coding methods allow for the reorganization and reanalysis of coded data through the first coding cycles (Saldaña, 2009). In my second cycle round of coding, I looked for specific words or phrases that were substantial that I missed in the first round of coding, as shown in Figure 9.

Figure 9

Semi-Structured Initial Codes

Initial codes
Campus leadership support
Challenges and success of supporting leaders
District engagement support
Goals for campus leaders
Leadership skills and behaviors
Skills to support instruction
Skills for human development and relationships
Skills to management organization
Behaviors to build a productive climate
Behaviors to engage in instructionally focused interactions with teachers
Behaviors to facilitate collaboration and professional learning communities
Behaviors to manage personnel and resources strategically
Leadership Summit planning
Principal experience
Types of principal professional learning
Content of principal professional learning
Culture building/Collegial environment
Change management
Improving instruction
Change management/Purpose
Echo support
Equity
Focus & goal setting
NTN model alignment

Note. The highlighted cells are codes that were added after the initial round of coding.

In this round of coding, I also reorganized and reanalyzed the thematic codes to allow for more detailed analysis, as demonstrated in Table 3. The codes I expanded included campus leadership support, goals for campus leaders, principal experience support, and types of professional learning. In my final round of coding, I coded the frequency of the term coach or coaching within the interviewee's responses.

Table 3

Added Parent & Child Codes

Parent code	Child code
Campus leaders support	Coaching support Connecting with various NTN leaders Leadership events Leadership Institute NTN Help Center Participation with teachers in events Publications Slack
Goals for campus leaders	Adult learning Culture of learning Differentiation Engagement in the work Goal development Healthy culture Instructional leadership Leadership team NTN leadership competencies NTN model support Purpose & why Student safety Systematic thinking Teacher feedback Teacher support
Principal experience support	Community Differentiate/Coaching Events/Workshops Implementation support Leadership team coaching Limited support Recommend resources
Types of principal professional learning	Asynchronous/ Coaching Events Leadership Summit Planning NTAC Leadership Institute Network building Slack Workshops

Document Collection and Analysis

Document analysis involves combining parts of thematic analysis and content analysis so the researcher can process and organize the information into categories aligned with the central project questions (Bowen, 2009). Document analysis involves a multi-step process that includes reading through the documents superficially, reading more intently, and interpreting the document for meaning (Bowen, 2009). In this project, I used document analysis with three separate groups of documents that included information from the New Tech Network events for the 2021 school year, documents within the leadership module from the NTN Help Center website, and internal organization documents.

New Tech Network Events

The New Tech Network offers several opportunities for its members to attend professional learning events throughout the year. I collected existing information for New Tech Network conferences from Spring 2021 through Fall 2021, looking specifically at the content offered at NTN leadership events. This year, all conferences were virtual due to the COVID pandemic. For the Leadership Summits, the New Tech Network events team provided a spreadsheet containing 18 spring sessions and 11 fall sessions with session title, time, and description. For New Tech's Annual Conference (NTAC), I received a spreadsheet containing 52 sessions with session titles, session code, description, and intended audience. For all events in 2021, there were 81 possible sessions to analyze.

I extracted and exported each event in a separate Excel file from the spreadsheet and imported each document into Dedoose using the process for document analysis provided by Bowen (2009). I skimmed all sessions, separated any session that did not contain a description, and removed those from the analysis. For example, NTAC had several placeholder sessions for

school workshop time where school leadership teams could reflect on their experience together. Because the sessions did not have specific content to analyze centered around a project question, I removed the sessions from the analysis. Next, I read through all titles and descriptions and deleted any duplicate entries when a session was offered more than once at a conference. Because NTAC has sessions for teachers and leaders, I reviewed all NTAC sessions and identified sessions specifically labeled for leaders. I coded all sessions by audience type, including general audience, leaders, and other audiences. I cross-checked all sessions intended for teachers to see whether any sessions were geared toward principals. There was one session that I moved from general audience to leader audience, leaving me with three NTAC sessions geared toward leaders. In addition to the three sessions, I kept four sessions that were designed for leaders to network with other New Tech Network principals for analysis.

I followed a similar process for the Leadership Summits by skimming the sessions to determine whether the session had content related to the project questions. I read through all descriptions and removed any duplicates. Because all Leadership Summit sessions are designed specifically for campus and district leaders, I did not need to sort them into audience type.

After I initially sorted all sessions, I began coding each session using my initial set of codes from the semi-structured interviews based on my conceptual framework. I added codes around professional learning content that included instructional leadership, managing change, and creating collegial environments. The first round of coding included looking at specific leadership skills and behaviors and principal professional learning content found in the session titles and descriptions. In my last round of coding, I reread all documents and reviewed my thematic codes looking for any significant words or phrases that I might have missed in my initial reading of the documents.

NTN Help Center

The New Tech Network houses asynchronous support for NTN school leaders and teachers within the NTN Help Center. Within the NTN Help Center, there is an NTN Leadership Quick Guide with a specific set of supports for school and district leaders. I conducted document analysis on the content of the modules to look at what content was available for principals asynchronously. I specifically was interested in what leadership skills and behaviors were supported through the modules. After accessing the NTN Help Center, I captured the introduction page to each of the four modules by screenshotting the webpage. I downloaded the items from each module, making sure to keep them organized in order of introduction in the module. I organized and uploaded 48 items, including images, screenshot images, documents, and pdfs. First, I read through all documents to look for duplicates and separated introductions that did not contain specific leadership content and removed them from Dedoose ending with 26 items. Table 4 includes the module number and title of the item included after the initial sort.

Table 4

NTN Help Center Modules

Module	Title of item
1	Deeper leading article
1	Hierarchy of change
1	NTN learning organization framework 2021
1	NTN learning organization framework
1	NTN leadership competencies
1	NTN leadership implementation
1	NTN leadership team overview & criteria
1	NTN leadership team charter plan
1	How do I cultivate and maintain learning-centered leadership
2	NTN secondary SSD1
2	Spectrum of school development (elementary)

Module	Title of item
2	NTN implementation_ Suggested goals for year 1 (7.16.20)
2	NTN journey map and action plan - Template
2	What NTN school culture surveys are available this school year
2	How do I create and sustain learning-centered structures_
3	Adult learning and support plan
3	How do I cultivate and maintain a learning-centered culture?
3	Deeper learning at NTN
3	NTN adult learning toolbox
3	NTN adult learning toolbox- June 2020
3	Looking at student work
3	How do I onboard teachers new to NTN with an NTN 101 experience
3	Frequently asked questions NTN deep dive workshops
4	Echo implementation timeline
4	Echo implementation team description
4	Self-directed online courses to support Echo use for Echo admin, teachers, and school leaders

Next, I coded materials looking through a lens from my conceptual framework at leadership content and which principal skills and behaviors were present in the materials. Like the New Tech Network event document analysis, I looked for any words or phrases I missed in my initial coding.

Internal Documents

I received several documents and one presentation from New Tech Network employees classified as internal organizational documents that I gathered from interview participants. These documents included a presentation for principals that described the initial support as a new school to the NTN model, a timelines of principal support, and two documents not part of the NTN Help Center that helped principals look at possible goals and implementation support, including topic and type of support.

Following the same process I used with the NTN Help Center documents, I skimmed the documents and sorted all items based on which project questions to which they might align. I uploaded the documents and presentation into Dedoose, where my initial coding was based on supported principal skills and behaviors. Next, I coded based on the types of professional learning and content from the conceptual framework. In the last round of coding, I looked for significant codes or phrases I might have missed.

Findings

From the semi-structured interviews and document analysis, four key findings emerged from this project centered around the three project questions. Table 5 outlines the key and sub findings by project question. This section elaborates on the four key findings.

Table 5

Key Findings and Sub Findings by Project Question

Project question	Key findings and sub findings
1	1. New Tech Network team members described varied goals for campus leaders that align with NTN Leadership Competencies.
2	2. New Tech Network team members described skills and behaviors that align with key aspects of instructional, transformational, and transaction leadership practices that support deeper learning.
3	3a. The New Tech Network supports campus leaders through a variety of supports differentiated by principal experience, number of NTN schools within a school district, and phase of implementation.
	3b. Leadership supports align with effective principal leadership skills and behaviors for deeper learning schools.
3	4a. The New Tech Network provides campus and districts leaders access to high-quality principal professional learning.
	4b. The New Tech Network designs professional learning content based on coach and leader feedback.

PQ1: What are the New Tech Network's Goals for Campus Leaders Leading Deeper Learning Work?

Finding 1

New Tech Network team members described varied goals for campus leaders that align with NTN Leadership Competencies.

Through document review and analysis, the New Tech Network indicates in its leadership competencies that the goal is to "provide leaders with guidance necessary to lead their schools toward successful and sustainable implementation of the NTN model." The New Tech Network developed a set of seven competencies using the components of a learning organization (i.e., a learning-centered culture, learning-centered structures, and learning-centered leadership) to provide leaders with guidance for implementing the NTN model.

When asked how they would explain in their own words the New Tech Network's leadership goals, staff members described 15 different goals as shown in Table 6.

Table 6

Leadership Goals for New Tech Network Principals

	Participants	Responses
Adult learning	4	4
NTN leadership competencies	4	4
Culture of learning	4	4
Goal development	4	5
Systematic thinking	3	3
Teacher feedback	3	3
Healthy culture	2	2
NTN model support	2	2
Instructional leadership	1	1
Leadership team	1	1

	Participants	Responses
Purpose & why	1	1
Student safety	1	1
Differentiated for leaders	1	1
Teacher support	1	2
Engagement in the work	1	1

Four of the eight participants described wanting principals to develop their capacity to lead adult learning on their campus, and three participants specifically mentioned providing teacher feedback. Their focus was on how principals supported their staff by creating opportunities for adult learning, including how school staff members spent their time and what emphasis a principal put on adult learning. One participant described looking at staff meetings to determine the school's type of adult learning practices. They said, "It isn't staff meetings that are full of logistical details but staff meetings where learning is happening and is carrying through to the impact it's making on students." Another participant referenced the types of adult learning a principal might support for leading their staff. This participant said the principal must "[create] opportunities …, for learning amongst the adults. And by learning, I mean, experimentation, application, feedback, and rounds of feedback, not necessarily just from the leader, but amongst the other learners." Building a principal's capacity to lead adult learning includes the time, support, and mode of learning available for all staff members.

Another goal mentioned in supporting principals was creating a culture of learning. One participant explained that the "goal of a leader or a person charged with leading an NTN school is to cultivate and sustain a culture of learning and collaboration, specifically amongst the adults, but also including students." Another participant delved deeper into the importance of principals creating a culture of learning:

Our belief is because of the nature of what you're doing to lead the adult learning right, to

get to this kind of student learning, you have to organize your school around learning.

And to organize your school around learning means you must build a learning-centered

culture, must have learning-centered structures in place, [and] you really have to think

about learning-centered leadership.

A culture of learning reflects the idea of centering all practices in a school to support learning.

Leaders must think about the structures, school culture, and instructional practices that start with

the adults in the building but center around students' needs and understanding. A leader who

centers their school around learning creates a culture that supports the creative, unique, and

intellectual challenges that promote individual growth (Cator et al., 2015) for both adults and

students.

Three participants spoke about systemic thinking and the need to see the entire school as

a whole when making decisions. One participant explained, "Leaders are able, with our support

to get on the balcony enough to see the system as a whole, even when they're running that rat

race that is leadership at a campus."

In addition, two participants mentioned supporting principals in creating a healthy school

culture, and one participant specifically mentioned student safety. A healthy school culture

contributes to a stable educational climate where stakeholders can engage in instructional

conversations (Grissom et al., 2021) and where students and staff feel supported, safe (Grissom

et al., 2021; Jacobson et al., 2007), and listened to (Mendels, 2012). One participant shared, "I

think the goal is to support leaders so that they empower their teachers to make decisions and

build strong school culture."

Because NTN leaders are working toward transforming their schools, they noted time spent on setting goals was imperative to their progress. Four participants described the importance of supporting principals in goal development and one staff member described the importance of setting a school purpose. One participant stated, "It requires really goal-specific development. So like, what are we actually trying to do, and being real succinct about that, for adults, in their work with students, but also in just [the] adults practice." Mendels (2012) described this method as principals creating a shared vision that focuses on teaching and learning practices. By setting goals and aligning them to their school's purpose, leaders cultivate and support continued growth for all stakeholders (Mendels, 2012).

A strong focus on instructional leadership, teacher support, the development of a leadership team, and engagement in the work each had one team member speaking up for their value as leadership goals when working with New Tech Network principals. The move from conventional instructional practices to student-centered practices requires a depth of knowledge in supporting teachers through this transition. One participant explained the "number one goal is to help leaders understand what a leadership team is." Effective principals understand they cannot lead their campus alone. Instead, they leverage the skills of others within their school to share responsibility (Mendels, 2012). They see the potential in others and grow capacity in their ability to lead (Sutcher et al., 2017).

Another participant explained the significance of staying engaged in the work. This participant said:

> We have a lot of leaders more often recently coming in with like no PBL [project-based learning] experience, no experience in deeper learning at all, and really excited about the work. So the other thing that I just really want is for them to stay excited because it's

hard work, and it's easy to feel overwhelmed. And so, I want that excitement to continue

and. . . shine through in every decision that they're making, even when it's really

adaptive shifts that they're having to make because those are definitely a big part of the

work.

Because the New Tech Network has a specific school model that reflects the four design

pillars, it requires a shift from conventional school models. Two participants mentioned that part

of their goal was to support administrators transitioning to the NTN model. One participant

explained:

I think the two things that stand out the most to me is that leaders are feeling supported to

understand our model in a way that doesn't feel like it's an initiative. But it feels like

through learning about our model, it makes everything they're doing more streamlined,

more connected, and has a bigger purpose that it's working towards.

A focus on developing a leader's understanding of the NTN model is imperative to the

success of a school. The leader's expertise and ability to manage the complexity of a school

environment (Grissom et al., 2021) determine the sustainability of the change over time. Without

knowledge of project-based learning or the learning outcomes, a principal might not make

operational decisions that support and encourage learner-centered practices.

One participant mentioned they differentiated their goals with working with leaders based

on how long the leader had been within the network or what phase of implementation the school

was within. They felt the goals for working with new principals to a New Tech Network school

were different compared to their more experienced peers.

Four participants specifically mentioned the leadership competencies by name whereas

others alluded to them in their responses. I compared all participant answers from the semi-

structured interviews with the NTN Leadership Competencies to look for alignment as shown in

Figure 10. All responses aligned directly with the competencies except for the one response

related to the differentiation of goals based on principal experience.

Figure 10

NTN Leadership Competencies and Goals

PQ2: What Skills and Behaviors do Principals Need to Lead New Tech Network Schools?

Finding 2

New Tech Network team members described skills and behaviors that align with key

aspects of instructional, transformational, and transactional leadership practices that support

deeper learning.

During the semi-structured interviews, the participants described the skills and behaviors

principals need in deeper learning schools. Table 7 displays the participant responses organized

by principal skills and behaviors.

Table 7

Principal Skills and Behaviors Identified in Semi-Structured Interviews

Leadership skills & behaviors	Participants	Responses
Instructional leadership		
Skills to support instruction	8	21
Behavior: Engage in instructionally focused interactions with teachers	5	11
Behavior: Facilitate collaboration and promote professional learning communities (PLCs)	8	14
Transformational leadership		
Skills to support human development and relationships	7	17
Behavior: Build a productive culture	7	23
Behavior: Facilitate change management and define common purpose	5	10
Behavior: Support school focus & facilitate goal setting	6	12
Transactional leadership		
Skills to manage organization	6	10
Behavior: Manage personnel and resources strategically	2	2
Additional identified skills & behaviors		
Curious & lifelong learner	4	5

Instructional Leadership. The instructional leadership skills and behaviors are broken down into three skills and behaviors as shown in Figure 11. This section covers participant responses connected to instructional leadership.

Figure 11

Instructional Leadership

Skills to Support Instruction. Supporting instruction refers to leading the instructional program for a school (Grissom et al., 2021). All eight participants said skills to support instruction were essential for campus leaders to possess in deeper learning schools. One participant explained, "The hallmarks of a good school, I believe, is consistency and transparency . . . particularly around learning." An instructionally focused leader centers their leadership in instructional practice, differentiates between low- and high-quality pedagogical approaches, and effectively provides feedback to teachers to improve their instruction (Grissom et al., 2021). Another participant expressed principal experience related to instructional leadership in the following way: "It's really helpful for them to have been a skilled educator in the classroom . . . they should be thinking about what student-centered instruction looks like and if they can facilitate it."

One participant stated the following about the need for instructional leadership:

Principals need to believe that they can affect instruction in the classroom, and they need to believe that instruction is incredibly important at their school, and that they are an integral part of that instructional mindset. So if their beliefs around becoming a principal are very much around compliance and discipline, then going into a deeper learning school would be disappointing to everyone.

Facilitate Collaboration and Support Professional Learning Communities. In addition to instructional skills, all participants mentioned that facilitating collaboration and supporting professional learning communities (PLCs) were essential behaviors. Encouraging teacher collaboration centered around instruction improves teacher practice and enhances the learning culture within a school (Grissom et al., 2021). Leaders who promote this collaboration encourage teacher partnership toward a common goal and provide the resources needed (Grissom et al., 2021). One participant explained this best as follows: "It would also mean like professional development meetings happen consistently, . . . there are times to collaborate, and there are times to discuss and for everybody to learn. They emulate what you want to see in a classroom."

Engage With Teachers Instructionally. Another instructional leadership behavior is principals engaging directly with teachers in instructionally focused conversations. Five participants talked broadly about the importance of this behavior, whereas four participants specifically mentioned teacher feedback. One participant questioned the importance of teacher feedback: "How do we provide feedback that leverages and builds relationships, while also holding folks to high expectations, so they hold students to high expectations?" Several studies support that providing effective feedback to teachers improves classroom instruction and practice (Garet et al., 2017; Grissom et al., 2021). The principal's ability to provide specific and timely feedback is essential to improving a teacher's practice and affects student learning.

Transformational Leadership. Under transformational leadership, the conceptual framework included four principal skills and behaviors as shown in Figure 12.

Figure 12

Transformational Leadership

Skills for Human Development and Relationship Building. The principal's ability to support building relationships within their campus was mentioned by seven of the eight participants. An effective leader builds relationships with all stakeholders to garner support for robust teaching and learning practices. A leader's ability to build relationships reflects the ability to communicate, care, and build trust with others (Grissom et al., 2021). One participant expressed this as "you have to have strong relationships in order to get people to do that [deeper learning] work."

Building a Productive Culture. Building a productive culture relies on balancing a healthy school culture with a sense of collective efficacy (Grissom et al., 2021). Leaders must provide physical and psychological safety for all stakeholders while empowering their staff in decision-making for school improvement (Grissom et al., 2021). Seven participants described the

importance of building a productive culture. One participant described the importance of moving

people by creating an environment conducive for change:

> And you got to be able to create an environment where folks feel like they feel led
>
> towards something greater than themselves. They need to feel a part of that movement
>
> and really psychologically safe to try things that may work, may not work, that are
>
> different and feel different. And know that if it doesn't work, like that's okay, but we're
>
> going to continue to march forward towards again towards something different, a
>
> different way of preparing young people for the world.

Focus and Goal Setting. Transformation requires that leaders build the capacity for

change (Jung & Avolio, 2000; Moolenaar et al., 2010) and empower employees to become a part

of the change (Avolio et al., 1991). Six participants agreed with these statements by stating

principals should focus and be able to create goals. One participant said the importance of

leaders "[focusing] is all built around deeper learning." Another mentioned:

> I think you probably need to be a planner. And you need to be proactive around supports
>
> and thinking about supports. . . . That's hard for school leaders, not because they can't do
>
> it did because like, how can you plan support if you're doing lunch duty 2 hours a day,
>
> and you got bus loop in the morning and after school? The logistics of the job, I think get
>
> in the way. So being proactive and planning around anticipated supports for teachers, I
>
> think becomes very important that I'm going to set this time and I'm going to hold it.

Change Management. Change management and the ability to define purpose was the last

section of transformational leadership and was mentioned by five participants as important in

deeper learning schools. One participant described this as "when the school is tightly aligned

around its purpose, and people are, then that's when [the] school can do powerful things."

Another participant mentioned something similar, stating, "it requires a vision and mission that is cultivated with others at the organization." Yet another described the importance of empowering teachers in the change: "It requires really goal-specific development. So like, what are we actually trying to do? And being real succinct about that, for adults, in their work with students, but also in . . . their own practice?" In addition to bringing people on board with change, transformational leadership includes providing the roadmap to make the change (Grissom et al., 2021). One participant explained this idea by stating, "I think someone who is able to see the big picture, but be very detail-oriented, when it comes to how to achieve the big picture."

Transactional Leadership. Many educators see transactional leadership skills as unnecessary and outdated compared to the other leadership models. However, transactional skills are vital in creating effective leaders and transcend school leadership (Grissom et al., 2021). Transactional leadership focuses more on the strategic management of personnel and resources as shown in Figure 13.

Figure 13

Transactional Leadership

**Transactional
Leadership**

Skills to Organize and Manage. Skills to organize and manage the day-to-day operations

are essential for principals to keep schools running. Six participants agreed in their interviews.

These activities are centered around managing budgets, hiring personnel, and maintaining

facilities, to name a few (Grissom et al., 2021). One participant explained, "There's an attention

to detail around the notion of making sure that all documentation is in place that need to be in

place . . . principals are called administrators for a reason."

Manage Personnel and Resources Strategically. Principals need the skills to manage the

complexity of school organizations (Grissom et al., 2021; Mendels, 2012). However, an effective

leader must use their management skills to support change in instructional practices through

hiring staff, strategically deploying resources, managing time, and using data (Grissom et al.,

2021). One participant talked about the importance of managing a master schedule, stating, "If

you want to be an instructional leader, but you don't design any time in your master schedule to support teacher learning than that's a challenge as well." Principals encounter many distractions in their day, making it challenging to remain focused, and one participant articulated this well:

> So how do you bring, like, the 14 things your district is asking you to do and the 17
> things the state is asking you to do and three things parents need plus. It's just as a school
> leader, you are balancing so many different things, and to be able to connect those ideas
> in a way that is not totally overwhelming to staff and to like, for staff to see the
> connections. It's just so important.

Without the ability to manage the operations of a school, it will become challenging to see any improvement in student and school outcomes.

Principal as Lifelong Learner. One response was not associated with the conceptual framework but four employees mentioned principals being lifelong learners was important in deeper learning schools. It can be challenging for leaders to be vulnerable in their learning when so many stakeholders depend upon them to be knowledgeable. One participant explained it best: "You got to show up as a learner, not as the person that already knows all this stuff."

PQ3: How Does the New Tech Network Support Leadership Development Within Their Model?

Finding 3a

New Tech Network supports campus leaders through a variety of supports differentiated by principal experience, number of New Tech Network schools within a school district, and phase of implementation.

Variety of Supports. During the semi-structured interviews, participants expressed how New Tech Network currently supports leaders within their network as shown in Table 8.

Table 8

Leadership Support from Semi-Structured Interviews

	Participants	Responses
Coaching support	8	10
Leadership Institute	6	6
Leadership events	6	9
NTN Help Center	6	8
Slack	4	4
Publications	3	5
Connect with NTN leaders	1	1
Teacher events	1	1

  Coaching. Coaching offers individual support for leaders to work on growth and reflect

on their leadership practice (Levin et al., 2020). Throughout the semi-structured interviews, the

participants mentioned the word coach or coaching 178 times. When asked how the New Tech

Network supports campus leaders, all eight participants said coaching support was one of the

primary ways. One participant expressed the importance of coaching in helping principals

achieve their goals. The participant said:

  How we make progress is that all of our coaching of leaders is centered on what a leader

  wants in their journey map and how to help them achieve that. Because I think ultimately,

 it will always feel like an initiative if it's not connected to the other work that's going on.

The NTN model of coaching centers around supporting leaders with their specific needs.

Principals who participate in coaching have greater growth in their leadership development (Goff

et al., 2014). Principals benefit from having a dedicated New Tech Network staff member as a

coach.

Leadership Institute. In discussing New Tech Network support, six of the eight

participants mentioned the Leadership Institute or support for school leaders at the beginning of

their implementation of the NTN model. The New Tech Network adapted its previous

onboarding of schools to a more systematic process for schools beginning implementation. These

principals are part of a school or district in their first 3 years of implementing the NTN model.

As part of this support plan, new principals participate in the Leadership Institute throughout the

spring before the fall implementation. Figure 14, provided during interviews, shows the support

timeline for schools within the first year of implementation, including the Leadership Institute

and beyond.

Figure 14

Leadership Support for Year One
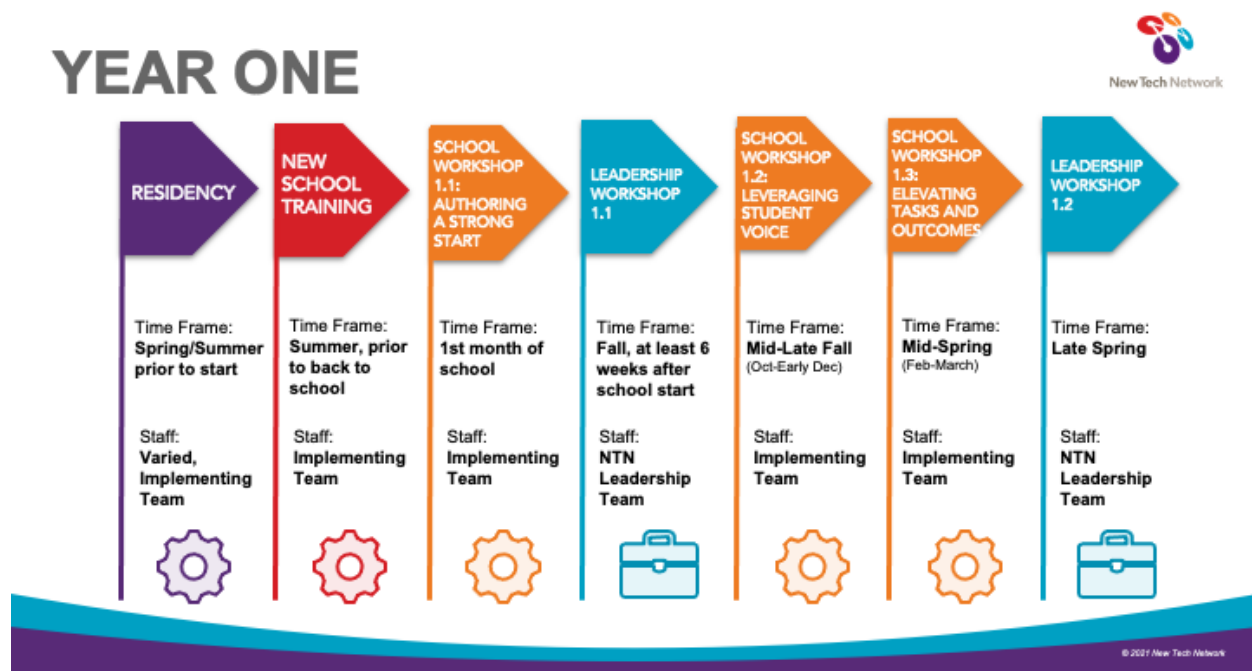
Campus leaders meet monthly with the Senior Director of School and District Leadership

during these institutes with one-on-one meetings or in small cohorts. The institutes focus on

building principal skills and knowledge around implementing a successful NTN model. As the

principal progresses through the institute, a New Tech Network coach leads the campus

leadership team through NTN Leadership Team Workshops. The two workshops focus on

assisting campus leadership teams in developing their support plan for implementing the NTN

model. In addition to leadership workshops, the New Tech Network coach conducts three

school-wide workshops for all school staff that focus on implementing the NTN model

throughout the fall. Throughout implementation, school leaders have a dedicated New Tech

Network staff member who serves as their coach and liaison. During Leadership Institute, school

leaders work with the Senior Director of Leadership Services as well. One participant explained

that "Leadership Institute is really an 8-month long engagement with [Senior Director of

Leadership Services] and the cohort of leaders that are doing this work, to better understand what

it means to lead the implementation of a New Tech school."

   Leadership Events. Five of the eight participants mentioned New Tech Network events

as a type of support they provided leaders. The New Tech Network hosts two Leadership

Summits in the school year and the NTAC in the summer. One participant said Leadership

Summits were "aimed specifically at helping leaders with their own professional development."

In contrast, NTAC serves all New Tech Network teachers and leaders. Although there were only

three sessions for leaders, one participant described one of those sessions as follows: "This year,

we also had during NTAC a session for new leaders to existing schools to just get caught up on

all of the things that happen for new school leaders."

   NTN Help Center. In response to how the New Tech Network supports leaders, six of the

eight participants mentioned the NTN Help Center. The NTN Help Center provides

asynchronous support for leaders through the NTN Leadership Quick Guide and contains four

modules designed explicitly for leaders. There are numerous other quick guides and resources for

teachers and leaders throughout the NTN Help Center; however, the Leadership Quick Guide is

the only resource geared explicitly toward leaders.

One participant explained what was in the Leadership Quick Guide: "[It was] built based

on those . . . ideas of those anchor documents of leadership team support, adult learning

development, journey map development, and additional sort of just resources that can be useful,

specifically for school leaders." However, how leaders interact with the resource differentiates its

use. For example, a leader can use the NTN Help Center asynchronously or a coach can use the

resources with a principal during a one-on-one coaching session. One participant explained:

> We have an Adult Learning Toolkit right now that is for leaders in any year of
>
> implementation, whether it's one through years or beyond. It's predeveloped professional
>
> development that they can pull from. It's 1-hour sessions. It's different session titles and
>
> descriptions that are already created. So if a leader and a coach identify for my school,
>
> we're really struggling with scaffolding; the leader could truly take the exact PD
>
> [professional development] . . . and use it at their own campus.

Slack. Four participants mentioned Slack as an option for supporting leaders. Slack is a

communication tool that allows users to direct message others, contribute to channels, and send

resources quickly. Slack is a new tool available for school leaders. One participant explained

how they were using Slack:

> We've got the NTN Slack community now. So we've got all of our schools in Slack.
>
> We've worked really hard through all of our remote stuff the last 2 years to make sure
>
> that Slack is a pretty integral part . . . We've got channels specifically in there for school
>
> leaders to communicate with each other and seek things out from each other, hoping to

kind of help them connect with one another as well. But also, NTN staff are always in there too and can offer resources and point them in the right direction.

Publications. The New Tech Network uses research-based practices to inform their leadership work, and using publications emerged as one way participants support leaders. One participant explained, "There are publications that we recommend, like *Adaptive Leadership* by Heifetz. . . And there are ways that teachers can or principals can branch out via their reading."

New Tech Network Teacher Events and Staff. One participant mentioned that principals could register for any teacher event so they could learn with their teachers. This expanded their opportunities for learning as the New Tech Network staff offered teacher-specific training and support.

At the same time, another participant explained how some leaders liked to stay connected with New Tech Network staff outside of their coach. This participant explained that leaders often "maintain relationships with other people. . . . They're never going to disconnect from [the Senior Director of School & District Leadership]." There are many reasons for this connection, but one reason is the small size of the organization allows people to feel comfortable staying connected.

Principal Experience. Coaching emerged as the most used support the New Tech Network provides for leadership development regardless of principal experience. When asked "how does your support change when supporting a new campus principal?" the participants responded unanimously; they supported principals through the differentiation of coaching regardless of whether the support was to a new principal to an existing New Tech Network school or someone new to being a principal. One participant shared that "we give them a coach. We give them someone who can help them gain perspective by sort of helping them see the

things that maybe they can't see." Another participant explained their process of supporting new

leaders:

> How can I help this leader be and feel successful in their leadership? So how can I offer
>
> them NTN resources, how-tos, conceptual frameworks or ways of thinking?
>
> Communicative frames that will help them feel and look confident in front of teachers,
>
> parents, community members, so that they can develop their own capacity to lead.

New Tech Network coaches guide the resources and connections principals have access to within

the New Tech Network. However, some coaches acknowledged the challenge when supporting

principals who have longevity within their principalship in an New Tech Network school versus

supporting new principals to an existing campus. One participant explained:

> And then also thinking about how do we support new leaders at existing schools what
>
> services or supports might we need to create to meet the needs of that very specific leader
>
> population? . . . I think a blind spot that we have is supporting new leaders of existing
>
> schools because we know that developmentally when a founding leader leaves a school
>
> or just any very strong leader leaves the school, that school learning . . . any organization
>
> is at risk of serious backsliding developmentally.

Districts With Multiple New Tech Network Schools. During the interviews,

participants expressed how the New Tech Network's support might change when there were

multiple New Tech Network schools within a school district. Five of the eight participants stated

support for multiple schools in a district occurred through differentiation from coaching. New

Tech Network coaches work as a team to meet the district's needs based on their goals. One

participant explained, "So they're getting kind of some different services. I think that typically,

you wouldn't see at just a standalone school." Unlike a standalone school, these differentiated

services require New Tech Network staff to communicate and check in with district staff

constantly to meet their needs. One participant explained the collaboration needed by stating,

"There's multiple New Tech voices pouring into those schools and the person assigned to like

the district support is also sharing all of the feedback coaches give them to the district."

Phase of Implementation. Schools within the first 3 years of implementing the New

Tech Network model receive a set of codified services compared to schools in continuation. This

is a more recent change, and one participant described the change in onboarding new schools:

> [Implementation services] refers to . . . initiative work that we have where all of these
>
> schools that are receiving this new kind of codified set of services . . . In the past, we've
>
> had really highly customized services where a coach will work with the school and based
>
> on their interpretation of the school's needs, . . . will come up with a plan of services and
>
> support . . . Now we've moved to this more codified set of kind of a path that all coaches
>
> are leading schools on with room for differentiation, but there's a set of targeted
>
> competencies that were leading leaders and teachers through.

Beginning in August of their implementation year, school leaders will meet regularly

with their specific New Tech Network coach throughout the school year. One participant

explained what occurred in this coaching format:

> Once they identify their journey map, then the coach can work with them in those 45-
>
> minute bi-weekly sessions to create PD if that's what's needed so that that learning can
>
> continue without a coach being on site. So our hope is that through those different ways
>
> of capacity building, the leader feels really enabled in years one through three to keep
>
> doing good work.

Although coaching is an essential support for leaders, there is a difference between what leaders in continuation receive versus schools within their first 3 years of implementation. One coach described the support leaders receive when in continuation:

> Right now, we design it based on the needs of the campus. We have a service called community, which offers a basically a 1-hour conversation with an NTN coach every other month. And then on the interceding months are like, virtual, workshops that are designed around topics that surface during those conversations. That service, while is good to like offer a lifeline back to school leaders does not necessarily offer like the type of coaching that might be necessary . . . But as of now, we do not have something for new leaders of existing schools that is as robust as what [Senior Director of Leadership Development] is doing with new leaders of new schools.

Several participants mentioned that schools in continuation were challenging to support and there was a need to solidify a support plan. New Tech Network staff recognize the challenges of differentiating support for leaders in different years of implementing the NTN model.

PQ3: How Does the New Tech Network Support Leadership Development Within Their Model?

Finding 3b

Leadership supports align with effective principal leadership skills and behaviors for deeper learning schools.

To develop principals' abilities to be effective in deeper learning schools, the New Tech Network must provide them opportunities to access principal leadership skills and behaviors. Through document analysis of NTN events, Leadership Institute, and the NTN Help Center,

results showed the New Tech Network provides access to content aligned with the principal

skills and behaviors needed in deeper learning schools.

Leadership Institute. Within the Leadership Institute, the New Tech Network defines a

set of objectives for each of the workshops, cohort meetings, and one-on-one meetings arranged

as "I can" statements. These statements align with the effective principal skills and behaviors as

shown in Table 9. The only behavior not identified specifically within the objectives was

engaging in instructionally focused conversations with teachers. The Leadership Institute

features more transformational skills and behaviors. Because the Leadership Institute is designed

to support school leaders at the beginning of the implementation of the NTN model, principals

need support in change management and building a productive culture more than later in their

implementation. Leadership Institute emphasizes transactional leadership skills and behaviors

followed by instructional leadership.

Table 9

Principal Skills and Behaviors in Year One Support

Principal skills & behaviors	Objectives
Instructional leadership	
Skills to support instruction	1
Behavior: Engage in instructionally focused interactions with teachers	0
Behavior: Facilitate collaboration and promote professional learning communities (PLCs)	1
Transformational leadership	
Skills to support human development and relationships	4
Behavior: Build a productive culture	3
Behavior: Facilitate change management and define common purpose	3
Behavior: Support school focus & facilitate goal setting	2
Transactional leadership	

Principal skills & behaviors	Objectives
Skills to manage organization	3
Behavior: Manage personnel and resources strategically	1

New Tech Network Events. The New Tech Network events for the 2021 year aligned with the effective principal skills and behaviors within instructional and transformational leadership. Table 10 shows each event's focus on principal skills and behaviors based on the title and description of the sessions. None of the events had a focus on transactional leadership skills and behaviors or on goal setting.

Table 10

New Tech Network Events by Leadership Skills & Behaviors

	NTAC	Fall Leadership Summit	Spring Leadership Summit
Instructional leadership			
Skills to support instruction	2	7	3
Behavior: Engage in instructionally focused interactions with teachers	1	8	1
Behavior: Facilitate collaboration and promote professional learning communities (PLCs)	1	0	2
Transformational leadership			
Skills to support human development and relationships	0	0	1
Behavior: Build a productive culture	1	0	4
Behavior: Facilitate change management and define common purpose	1	2	2
Behavior: Support school focus & facilitate goal setting	0	0	0
Transactional leadership			
Skills to manage organization	0	0	0
Behavior: Manage personnel and resources strategically	0	0	0

Leadership Summits. The Spring Leadership Summit's theme was "Listen to Lead Forward." Table 10 shows the breakdown of the Spring Leadership Summit that shows the sessions offered the option of instructional and transformational skills and behaviors. None of the sessions were available for transactional leadership.

The Fall Leadership Summit's theme was "Feedback for Powerful PBL." Table 10 shows the session offerings to include most sessions connected to instructional leadership. Although there were no sessions in either summit that focused on transactional leadership, there were opportunities within the conference to engage other principals on reflection and network building.

New Tech Annual Conference (NTAC). Though there were only three leadership-specific sessions at NTAC, those sessions supported primarily instructional leadership and transformational leadership skills and behaviors. No session focused on transactional leadership skills and behaviors.

NTN Help Center. The NTN Help Center provides asynchronous support for leaders through the NTN Leadership Quick Guide and contains four modules designed explicitly for leaders. Table 11 shows the number of skills and behaviors per module.

Table 11

Leadership Behaviors and Skills for NTN Help Center by Module

	Module 1	Module 2	Module 3	Module 4
Instructional leadership				
Skills to support instruction	14	63	7	0
Behavior: Engage in instructionally focused interactions with teachers	4	0	4	0
Behavior: Facilitate collaboration and promote professional learning communities (PLCs)	13	16	6	0
Transformational leadership				
Skills to support human development and relationships	14	13	3	0
Behavior: Build a productive culture	16	12	3	0
Behavior: Facilitate change management and define common purpose	4	2	0	0
Behavior: Support school focus & facilitate goal setting	2	1	0	0
Transactional leadership				
Skills to manage organization	11	19	0	0
Behavior: Manage personnel and resources strategically	7	2	0	0
Additional identified skills & behaviors				
Curious & lifelong learner	2	0	1	0
Echo support	1	3	0	3
NTN model support	2	1	1	0

Module 1 focuses on the question: "What does it mean to be a New Tech school leader?" For this module, the nine artifacts reinforce all three leadership types. The top four skills and behaviors include building a productive culture, supporting instruction, supporting human development and relationships, and facilitating collaboration among teachers.

Module 2 focuses on the question: "How do leaders set goals over time?" This module

contains six artifacts that focus on all three leadership skills and behaviors; however, there is a

more extensive emphasis on skills to support instruction.

Module 3 focuses on the question: "How do leaders at NTN schools support the growth

and development of teachers?" The eight artifacts include support for both instructional and

transformational leadership. However, the top three skills and behaviors are skills to support

instruction, facilitating adult collaboration, and engaging in instructionally focused conversations

with teachers.

Module 4 focuses on the question: "How do NTN leaders use and support the

implementation of Echo effectively?" Because this module focuses solely on Echo, all three

articles fit under the additional leadership skills and behaviors category.

A leader has access to all the effective principal skills and behaviors as long as they

participate in all New Tech Network events, engage with the NTN Help Center, and attend

Leadership Institute. If a leader chooses not to participate in any of these supports, then their

access to all the effective principal skills and behaviors changes.

PQ3: How Does the New Tech Network Support Leadership Development Within Their

Model?

Finding 4a

New Tech Network provides campus and districts leaders access to high-quality principal

professional learning.

High-quality principal professional learning includes the type or model of learning and

the content within the experience (Levin et al., 2020). For professional learning to meet the

requirements to be considered high quality, there must be time for processing and reflection for

principals to improve their practice (Goldring et al., 2012). The New Tech Network provides

high-quality principal professional learning for leaders through all their leadership supports.

Authentic, Job-Embedded Professional Learning. The analysis of the semi-structured

interviews and documents showed New Tech Network supports align with the type of

professional learning experiences that are essential for principal growth as shown in Figure 15.

See Appendix E for a description of why sessions were coded a specific way through the code

playbook.

Figure 15

High-Quality Principal Professional Learning Aligned With New Tech Network Leadership

Supports
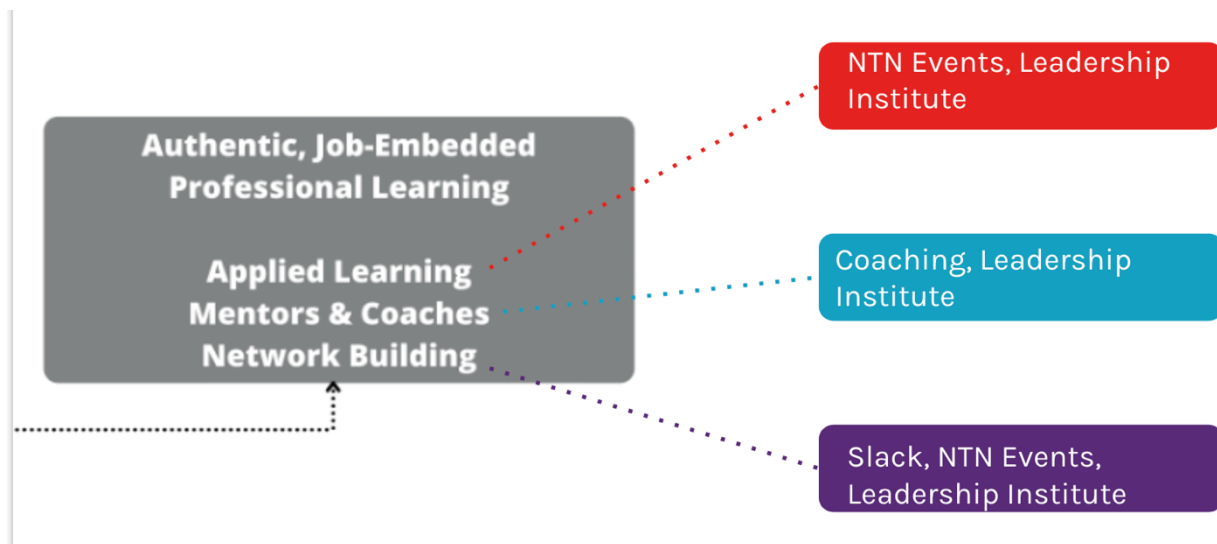
Applied Learning. Applied learning experiences include opportunities for leaders to

engage in authentic activities to their role as a leader and center around theories, practices, or

frameworks (Levin et al., 2020). The New Tech Network provides applied learning opportunities

through New Tech Network events and the Leadership Institute. Within the Leadership Institute,

100% of sessions provide applied learning experiences as shown in Table 12. Leadership

Institute was the only event for which I used simultaneous coding, allowing for sessions to be

both applied learning and coaching or applied learning and network building. This is designated with an asterisk in Table 12. Within the sessions, leaders have opportunities to build capacity around communication, building distributed leadership, and understanding how to support deeper learning instruction better. Whether the session was a one-on-one coaching opportunity or a cohort meeting, New Tech Network weaved applied learning experiences throughout a leader's first year.

Table 12

Type of Professional Learning

	Applied learning		Mentors & coaching		Network building	
	N	*%*	*N*	*%*	*N*	*%*
Leadership Institute	9*	100%	5	56%	4	44%
NTAC	3	43%	0	0%	4	57%
Fall Leadership Summit	8	89%	0	0%	1	11%
Spring Leadership Summit	5	50%	0	0%	5	50%

During NTAC, 43% of the sessions provided opportunities for applied learning. One session that demonstrated applied learning through the description was as follows:

Join New Tech Principal . . . as he shares a module that takes participants through a step-by-step process of understanding and articulating key ideas relating to racial equity, conducting a personal and professional audit on equity, and creating an action plan for taking the next steps in the equity journey, both personally and professionally. Session participants will walk away with an understanding of how to use the module.

Because leaders used a framework together within the session with other practitioners, the session provided leaders opportunities to expand their knowledge of an important principal topic.

Fall Leadership Summit provided 89% of the sessions and Spring Leadership Summit offered 50% of the sessions through applied learning. The following example of a session title and description for applied learning was taken from the Spring Leadership Summit:

> Leaders as Warm Demanders: Supporting Innovation. Becoming warm demanders is a critical approach we take for increasing equity in our schools. -Shane Safir.
>
> Join us . . . as we unpack the warm demander framework and explore how you can use these skills to support your teachers.

Similar to NTAC, leaders had an opportunity to use a framework with other leaders to build their knowledge around educational equity.

Mentoring and Coaching. Mentoring and coaching are essential for principals to improve their effectiveness and efficacy (Levin et al., 2020). The New Tech Network provides coaching through the school development coach and Leadership Institute. The New Tech Network provides every school leader with their own school development coach and they meet frequently together.

Within Leadership Institute, as shown in Table 12, 56% of the sessions offered centered around one-on-one coaching opportunities. These one-on-one coaching sessions provided 90 minutes of coaching with the principal and their New Tech Network thought partner centered around specific leadership topics.

Network Building. Within Leadership Institute, 44% of the sessions allowed leaders to meet with other leaders in a cohort model. During the cohort meetings, principals could engage with other leaders to work on common problems, share ideas, and learn together. This type of network building is essential in providing high-quality professional learning because it helps to reduce principal isolation (Levin et al., 2020). Within all the New Tech Network events, there

were sessions designated for encouraging network building through meeting with other leaders

or connecting through Slack. For example, four sessions at NTAC encouraged participants to

collaborate with colleagues through Slack. In the Fall Leadership Summit, there were specific

sessions designated for connecting as described in the session description:

> The power of our network and community is the ability to connect and share ideas with
>
> leaders just like you, who share your aims of powerful student learning outcomes for
>
> every student. Our Connecting sessions will include opportunities to connect in small
>
> groups around topics you care about. We'll kick it off all together with a short overview
>
> and then head on over to the Discussions tab and join the conversation!

Providing designated time for network building assists leaders in creating cross-network

connections and is essential due to the wide geographic locations of New Tech Network schools.

Professional Learning Content. In addition to providing job-embedded authentic

professional learning experiences, the content within these experiences is essential in providing

high-quality professional learning. Principals need time to work with other leaders engaging in

activities that support change management, support instructional improvement, and develop

collegial climates (Levin et al., 2020; Sutcher et al., 2017). Figure 16 shows the percentage of

sessions from New Tech Network events and the Leadership Institute aligned with the principal

professional learning content from the conceptual framework.

Figure 16

Percentage of Sessions from NTAC, Leadership Summits, and Leadership Institute

Managing Change. Though the content varies from year to year, Table 13 shows the type of professional learning content New Tech Network provided during the 2021 year for all its New Tech Network events and Leadership Institute. Using session objectives to determine learning content, Leadership Institute provides leaders with the highest support of managing change. For example, one objective from the first Leadership Institute session was, "I can clearly communicate our school's purpose for implementing the NTN model to staff, students, families, and community." A leader cannot manage change if they are unable to communicate to their stakeholders the importance of the change and the plan for the change (Billingsley & McLeskey, 2014; Sutcher et al., 2017).

Both the NTAC and the Spring Leadership Summit had one session centered around change. The Spring Leadership Summit's session was titled "Naming and Navigating our Triggers" and the session description included:

Leading a school through change towards Deeper Learning can cause a wide variety of experiences and emotional responses. Join us for this connection session where we will learn how to notice and navigate triggers that are common during times of change.

Table 13

New Tech Network Events and Leadership Institute by Principal Professional Learning Content

	Change management		Culture building/ Collegial environment		Improving instruction	
	N	%	*N*	%	*N*	%
NTAC sessions	1	33%	0	0%	2	67%
Spring Leadership Summit	1	14%	6	86%	0	0%
Fall Leadership Summit	0	0%	0	0%	8	100%
Leadership Institute	7	64%	3	27%	1	9%

Creating Collegial Environments and Culture Building. Both the Spring Leadership Summit and Leadership Institute provided opportunities for creating collegial environments and working on building culture as shown in Table 13. Culture building and creating collegial environments rely on support where principals learn to create environments where all stakeholders engage in continuous improvement and learning (Sutcher et al., 2017). Examples of sessions within the Spring Leadership Summit within creating collegial environments and building cultures included "Leaders as Warm Demanders: Supporting Innovation" and "Centering Ourselves: Exploring Identity and our Ability to Listen." Though principals in the Leadership Institute experienced this content through the session with the objective, "I can develop a systematic adult learning calendar aimed at supporting the implementation of New Tech cultural and instructional practices," neither the NTAC nor the Fall Leadership Summit provided opportunities within creating collegial environments or culture building just for leaders.

Improving Instruction. Professional learning content must provide curriculum that focuses on school improvement and instructional practice (Sutcher et al., 2017). The NTAC, Fall Leadership Summit, and Leadership Institute provided leaders with sessions centered around improving instruction. The Fall Leadership Summit had 100% of its sessions centered around improving instruction due to the theme being centered around feedback. The following is an example of a session description:

> Learner Centered Practices: Part 1 Want to learn about how to engage teachers in designing learning experiences using the Learner Centered Practices? Curious about how to provide feedback to teachers who are using the Practices with their students? If you want to help your teachers improve their practice of designing learning experiences then this pathway is for you! The Learner-Centered Practices path will focus on how to offer feedback that builds your teachers' capacity to design and implement the practices. In Part 1 we will highlight for leaders the specific New Tech Network resources and tools best used for teacher practice. Each pathway consists of three parts. Attendees are strongly encouraged to attend all three parts. Note that all resources shared in each pathway, including the session recordings, will be made available to all attendees after the event.

The Leadership Institute objectives centered around improving instruction, such as "I can identify the conditions of deeper learning that support effective PBL/PrBL [project-based/problem-based] instruction." One of the two sessions at NTAC supporting leaders in improving instruction was titled, "Leading Your Way Back into In-Person PBL." Principals need to understand the instructional model in their school, and having sessions that designed specifically around project-based learning is imperative in a New Tech Network event.

PQ3: How Does the New Tech Network Support Leadership Development Within Their Model?

Finding 4b

The New Tech Network designs professional learning content based on coach and leader feedback.

I asked how Leadership Summits were planned and developed and by whom within the semi-structured interviews. One participant described the planning of Leadership Summits as follows: "It definitely starts with listening to those whom we serve." This was accomplished by listening to coaches who interacted with campus principals continually and looking for emerging themes. Another participant expanded on how they planned for all New Tech Network events, stating, "We are regularly looking at feedback from . . . our events." At the end of events, the NTN provides an opportunity for leaders to give feedback on structure and content through surveys.

Another avenue the New Tech Network uses to design leadership events is to look at trending educational issues. One participant explained, "Looking at the national landscape of education and figuring out what people are talking about right now." This focus on educational issues is also reflected when looking at the keynote sessions. For example, the New Tech Network brought in Shane Safir, an educational equity writer, during the 2021 Spring Leadership Summit due to the national focus on educational equity.

In addition to listening to stakeholders, the New Tech Network's Senior Director of Leadership guides the leadership work. One participant said, "[the] Senior Director of Leadership, she really holds that vision and drives that, but at the same time lets us have lots of input as well." Leadership Summits involve multiple stakeholders and planning for the school

year to meet campus and district leaders' needs. Through collaboration, New Tech Network staff

uses various ways to seek feedback and predict what topics will be relevant for the school year.

One participant explained how they used Leadership Summits in their planning: "We try to have

them connect B and B, an arc. . . . We look at it, those two in conjunction."

Planning for leadership events did not span beyond the school year. One participant

explained that specifically in the case of Leadership Summit, "It would be great to do to be able

to take a longer arc in time or have more experiences that connect between the two. But right

now, it's let's look at the two."

<div align="center">

Recommendations

</div>

The following section provides recommendations that the New Tech Network should

consider in continuing to support campus and district leaders. All recommendations are

correlated to the project's findings and supported by research.

Recommendation 1

Create consensus around the NTN Leadership Competencies as New Tech Network's

goals for leaders. Using the NTN Leadership Competencies, create a multi-year strategic plan for

leadership support.

Finding 1 showed New Tech Network's employees had varied goals for campus leaders

and Finding 2 reflected the effective skills and behaviors principals need in deeper learning

schools. These findings provide the New Tech Network the opportunity to leverage their

leadership goals by narrowing the focus to the NTN Leadership Competencies. Leaders must be

able to set the direction by creating a shared set of goals (Leithwood & Jantzi, 2006; Leithwood

et al., 2002; Leithwood et al., 1999), and the competencies provide this direction.

When comparing the competencies to the New Tech Network's leadership goals as shown in Figure 10, the competencies align with staff's goals when working with leaders. By leveraging the competencies, New Tech Network coaches have a base for coaching leaders, designing workshops, and providing asynchronous support. In addition, New Tech Network coaches benefit from using the competencies on an ongoing basis for their own leadership development.

To support a systemic approach aligned to the NTN Leadership Competencies, I recommend that the work shift toward a multi-year strategic plan centered around the leadership competencies. The type of transformational change needed for leaders requires a change at both the systemic and local levels (Fullan et al., 2018). By creating a roadmap for future work in leadership development, the New Tech Network leadership support team can ensure consistency and coherence within the leadership development work. Fullan et al. (2018) defined coherence as an understanding shared deeply about the essence of the work.

A solid long-range plan should include short- and long-term goals, measurements, and timelines. By creating a more formalized leadership development plan, the New Tech Network can increase the capacity of all employees to ensure continued progress in refining their support.

Recommendation 2

Create a leadership cross-functional design team consisting of New Tech Network leaders and school personnel to guide the leadership work of the network.

It's evident from Finding 4b that the New Tech Network develops leadership content based on coach and principal feedback. The New Tech Network values the input of various stakeholders to determine content for leadership work. However, that feedback is often collected for a specific purpose from various stakeholders. I recommend the creation of a steering

committee that includes New Tech Network staff as well as campus and district leaders to assist in guiding the leadership work of the network. It is crucial in improvement work to focus on all stakeholders being a part of the improvement process (Bryk et al., 2015). Incorporating a user-centered theory will empower New Tech Network leaders by demonstrating respect and dignity for their work (Bryk et al., 2015).

Effectively meeting the needs of all leaders in deeper learning schools requires a systemic view to understanding why the current system works the way it does (Bryk et al., 2015). Groups should avoid "solutionitis" or jumping quickly to a solution before spending time working through the reasons why something is occurring (Bryk et al., 2015). Incorporating a systemic process for planning and leading the leadership work decreases the likelihood of jumping to solutionitis (Bryk et al., 2015) and provides resources for tackling adaptive problems (Heifetz et al., 2009).

Another advantage of creating a cross-functional leadership team is the development of communities of practice. Communities of practice allow members to move from the individual acquisition of knowledge to the shared construction of meaning (Lave & Wenger, 1991). This shared knowledge comes from the participation of its members who benefit from interacting with others, from novices to experts within the community (Lave & Wenger, 1991). Creating a community of practice of leaders allows for the exploration of varying support ideas. New Tech Network staff and campus personnel will benefit from being a part of this planning team by working with others toward a common goal of improving the principal's ability to lead regardless of their experience or phase of implementation.

Recommendation 3

Create a Leadership Institute for new leaders on campuses in year four and beyond to support their leadership development.

Finding 3a revealed new leaders to schools in continuation do not receive the same support as leaders in the first 3 years of implementation. New Tech Network staff mentioned a need to support new campus leaders on existing campuses differently. Leaders who understand the NTN model can better support their campus. The Leadership Institute provides a high-quality learning experience for principals, and expanding that experience to other leaders would be beneficial.

Recommendation 4

Continue to develop professional learning experiences that support the leadership development of instructional, transformational, and transactional skills and behaviors.

Finding 3b showed the current supports provide access to principal leadership skills and behaviors. Finding 4a revealed that the New Tech Network provides high-quality professional learning opportunities within the existing support plan. As shown through the conceptual framework for support for principals leading deeper learning schools, high-quality principal professional learning should include experiences that are authentic to the principal role (Levin et al., 2020). These experiences should include mentoring and coaching, networking, and relevant problem solving (Levin et al., 2020). The New Tech Network provides these opportunities through coaching, Leadership Summits, Leadership Institute, and the NTN Help Center and should continue investing in these supports within their leadership development. Because New Tech Network staff has limited time with campus and district leaders, I recommend looking at what supports principals are actually participating in. This knowledge will be beneficial in planning and determining opportunities for future support and services.

Recommendation 5

Continue developing the coach's ability to work with campus leaders, especially if they have never been campus leaders themselves.

During the conversations with New Tech Network employees, coaching emerged as essential in how the New Tech Network supports campus and district leaders as noted in Finding 3a. Therefore, supporting New Tech Network coaches to work with numerous campus and district leaders should continue. Like principals, coaches should have ongoing, job-embedded training that includes time to collaborate with other coaches (Kowal & Steiner, 2007). Exploring how New Tech Network supports coach development was not a part of this project; however, numerous New Tech Network employees mentioned working with other coaches or supervisors. At the time of the interviews for this project, only one coach had principal experience, yet all New Tech Network coaches supported leaders in some capacity. Because coaching is essential in the support that New Tech Network provides schools, New Tech Network staff must have the skills to coach leaders in positions with which they might not have previous experience.

Additionally, coaches need the opportunity to develop as leaders themselves through high-quality adult learning practices. These practices include job-embedded ongoing learning experiences relevant to their leadership practices and opportunities for coaching, mentoring, and time with other coaches (Levin et al., 2020; Sutcher et al., 2017). In supporting this development, the New Tech Network should leverage the NTN Leadership Competencies for their coaches and create learning paths to continue supporting their coaches as they build essential expertise.

Discussion and Conclusion

The focus in this capstone project was on answering three questions centered around how the New Tech Network supports campus and district leaders in its support model. These

questions were centered around the themes of what principals should know and be able to do to lead deeper learning schools and how they learn this information (Darling-Hammond et al., 2007). After finding little previous research on principal support in deeper learning schools, I combined deeper learning, leadership models, principals' skills and behaviors, and high-quality principal professional learning theories to create a conceptual framework for supporting principals leading deeper learning schools. Through a mixed-methods design, I used document analysis and semi-structured interviews to explore these questions for the New Tech Network. Four key findings emerged that highlighted how New Tech Network supports its campus and district leaders. All five recommendations were correlated to the project's findings and supported by research. These findings led to recommendations that the organization can implement to support and sustain a robust leadership development support process for leaders working in deeper learning schools.

Limitations

The COVID pandemic affected this study. I originally designed the study to include the voices of principals within the New Tech Network to provide additional feedback on support. However, due to the additional stress school leaders faced during the pandemic, the organization's leaders felt it would be better not to involve principals at the time of this project. The lack of a principal voice narrowed the design and findings to New Tech Network employees and support materials.

During this capstone, there were organizational changes with several New Tech Network employees leaving the organization, which resulted in role changes and reduced my access to staff. In addition, the New Tech Network employees returned to travel, which was previously suspended due to COVID restrictions during the previous school year. I believe these changes

made it more difficult to find consistency in retaining interviewees for the semi-structured interviews.

Another limitation related to the overlap between instructional and transformational leadership. I had to decide where goal setting would land when developing the conceptual framework. Because the instructional leadership (Hallinger & Murphy, 1986) and the transformational leadership (Leithwood et al., 1999) models overlapped in this area, I chose to align goal setting with transformational leadership. This decision could have affected the balance between how New Tech Network views instructional and transformational leadership.

The documents I collected for the New Tech Network events were available for the 2021 calendar year and represented only a snapshot of a leader's New Tech Network experience. Also, due to COVID, all the events were moved to a virtual format, which could have affected the type of sessions and content provided during the events.

Conclusion

The results of this capstone project provide recommendations for the New Tech Network as they continue to evolve their leadership support in developing high-quality professional learning around topics that are meaningful for principals. New Tech Network leaders can use the findings to strategize their campus and leadership support around specific leadership skills and behaviors, the delivery methods, and the content of professional learning. This project's conceptual framework and results can also assist other school district leaders or intermediary organizations that support leaders in analyzing their leadership development. Providing opportunities for principals to engage in learning designed specifically for their leadership development enhances their experience. As the educational landscape continues to move toward a greater focus on improving school and student outcomes, especially in the aftermath of the

COVID pandemic, principal development will continue to increase in importance. This shift will influence the reliance of school district leaders on supporting their principals. In aiding this transformation, continued research on principal professional learning centered around high impactful skills and behaviors is essential to positively influence student outcomes and school improvement.

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Appendix A: New Tech Network Model

Note. From *New Tech Network Overview 2.pdf* by New Tech Network, 2020 (https://32dkl02ezpk0qcqvqmlx19lk-wpengine.netdna-ssl.com/wp-content/uploads/2020/11/New-Tech-Network-Overview-2.pdf). Copyright 2020 by the New Tech Network.

Appendix B: Learning Outcome Definitions

Note. From *New Tech Network Learning Outcomes* by New Tech Network, 2018 (https://newtechnetwork.org/resources/new-tech-network-learning-outcomes/). Copyright 2018 by the New Tech Network.

Appendix C: Email Invite for Prospective Participants in Semi-Structured Interviews

Dear [Name],

As a doctoral student in the Leadership, Learning and Organizations program at Vanderbilt University, I am inviting you to participate in a capstone project about how the New Tech Network supports campus leaders supporting deeper learning schools. You have been identified as a potential interviewee for this study because of your position within the New Tech Network. Your participation in this study is extremely important to me and to NTN. Should you agree to participate, I will contact you to set up a zoom interview at a time of your convenience. The interviews will be between 1 and 1.5 hours. Participation is voluntary, and your response will be kept anonymous. You will have the option to not respond to any question that you choose. Participation or nonparticipation will not impact your relationship with the New Tech Network. Agreement to participate will be interpreted as your informed consent to participate and that you are at least 18 years of age.

If you have any questions about the project, please contact the Principal Investigator, Carie Spannagel, via email at carie.a.spannagel@vanderbilt.edu or my faculty advisor, Dr. Erin Henrick at erin.henrick@vanderbilt.edu. If you have any questions regarding your rights as a participant, contact the Vanderbilt Institutional Review Board (IRB) at (615) 322-2918. Please print or save a copy of this page for your records.

Sincerely,

Carie Spannagel

Appendix D: Interview Guide with Sample Questions

Before beginning the Zoom recording, explain the purpose of the interview and verify consent.

- Explain the purpose of the interview.

  o *Thank you for taking the time to meet with me. In this interview, I will ask you*
    questions about NTN and your support of campus leaders engaged in deeper
    learning work based on some different school and leader contexts.

- **Consent Process:** Please be sure to consent to the participant if s/he has not consented
  before.

  o *Before we begin the interview, I want to remind you that participating in this*
    study is voluntary, and your responses are entirely confidential. At any point
    during the interview, if you would like me to turn off the recording, tell me to do
    so. Do you have any questions about the study before we begin?

Begin recording the Zoom meeting.

Let's start with your background as a NTN coach and previous experiences.

History & Background of the NTN coach:

- What is your previous background working in schools or other organizations?

- How long have you been with the New Tech Network?

- What is your primary job with NTN? Do you support any additional initiatives?

- How many schools or districts are you currently coaching?

I want to ask you a few questions related to the NTN leadership program. These questions will
focus more on the whole network support of campus leaders.

NTN Leadership Program:

- In your own words, describe NTN's leadership goals for campus leaders.

- Do you help in planning NTN leadership support for the network? (*If no, continue to the next question.*)

    o Describe the planning process for NTN leadership support. How are goals selected? How are the decisions made for what support leaders need??

- How does NTN support campus leaders? What are the supports that are in place as part of the leadership program?

- Where does a campus leader find additional leadership support outside of their coach?

The following few questions will focus on your thoughts related to the needs of campus leaders when leading deeper learning schools.

Leaders Skills and Behaviors:

- What are your overall goals when working when supporting campus leaders?

- What skills do you think that campus leaders need in leading deeper learning schools?

    o How do you and/or NTN support these skills in your coaching practice with school leaders?

- What are the behaviors that campus leaders need in leading deeper learning schools?

    o How do you and/or NTN support these behaviors in your coaching practice with school leaders?

- How does your support differ based on the campus leader's experience?

- What are the successes and challenges of working with new campus leaders versus those with more experience

Now I will ask you specific questions related to school implementation type.

School Context:

- Do you support schools that are a whole school NTN implementation?

- How do you support schools with this type of school design? Is there a difference from other school implementations?

- What are the successes of supporting school leaders in this type of school design?

- What are the challenges of supporting school leaders in this type of school design?

- What are the main activities do you spend when working with a campus leader?

- Do you support schools that are a school within a school NTN implementation?

- How do you support schools with this type of school design? Is there a difference from other school implementations?

- What are the successes of supporting school leaders in this type of school design?

- What are the challenges of supporting school leaders in this type of school design?

- What are the main activities do you spend when working with a campus leader?

This next section of questions relates to districts engaged in deeper learning work beyond one school.

District Engagement:

- Do you support any schools that districts are engaged in the deeper learning work? *(If no, continue to the next section.)*

- How does that change your support as a coach?

- What are the challenges you see in schools that are engaged in district work in deeper learning?

- What are the successes you see in schools that are engaged in district work in deeper

  learning?

Closing Question:

- Is there anything else that I have not asked that you believe would help me understand

  NTN's leadership support?

- Would you be open to a follow-up interview if needed?

Thank you for your time today.

Stop recording.

Appendix E: Code Playbook

Conceptual Framework	Code	Definition	Examples
Behaviors	Engaging in instructionally focused interactions with teachers	Forms of engagement with teachers around instruction and instructional practice	• High-leverage instructional activities appear to be those that support and improve teachers' classroom instruction • Teacher evaluations with structured classroom observations of a teacher's performance with high-quality feedback • Teacher feedback & coaching • Professional learning opportunities for individual teachers • Devote resources to learning opportunities for teachers that focus on instruction and build teacher capacity • Data drives decorations around the school's instructional program and strategies to promote achievement • Data are prioritized as a tool to improve instructional practice
Behaviors	Building a productive climate	The person is responsible for creating and maintaining the school's climate. School climate refers to the behaviors and actions of people in the school who are members of its social system and is an outgrowth of the more stable school culture, which is the shared beliefs of people in the school community	• All individuals in the school can spend their time engaging in or supporting effective teaching and learning • Strong climate= collaboration, engagement with data, organizational learning, and a culture of continuous improvement, and academic optimism • Trust • Collective efficacy • Academic emphasis • Facilitate and create a strong climate by organizing schools to help teachers and students feel safe, valued, and supported • Teachers and students feel emotionally supported • Familiarizes themselves with the school, community's values, priorities, needs, and norms • Emotion and social intelligence competencies to foster improvement • Invest in staff's expertise, needs, and personalities • Empower teachers • Promote teacher leadership & delegating tasks to them • Actively mentoring teachers to enhance their personal and professional competence

Conceptual Framework	Code	Definition	Examples
			- Selecting professional development experiences that generate powerful learning opportunities - Promote collaboration - Facilitate school improvement - Positive student beliefs and student behavior - Build collective efficacy - Making teachers more flexible and adaptive in their approaches to improving student outcomes - Cultivate trust by providing teacher autonomy to try new strategies and risk failure - Create routines and structures that encourage collective action - Demonstration of competencies by being visible, helping teachers solve problems, consistency in approaches - Respect and support for staff - Extends to parents and community stakeholders - Serve has highly visible community leaders and advocates
Behaviors	Facilitating collaboration and professional learning communities	Supports and facilities collaboration that involves working towards a common goal with shared resources, responsibilities, and accountability.	- Facilitate teacher collaboration - PLC: Leading effective data use for student improvement through teachers - PLC: Set purposes and expectations - PLC: Allowing opportunities for data use and training - Using explicit protocols for collaboration - Creating a culture of learning that permeates the entire school - Facilitating instructional collaboration - Principal monitors teaching and learning - Builds nested learning communities experience instructional collaboration - High-leverage practices provide opportunities for formal collaboration - Support teacher communities and groups in a school - Provide time and support for PLCs - Leverage the expertise and engagement of other leaders in the school to maintain communities of practice
Behaviors	Managing personnel and	Strategic management of scarce resources	Schedule and budget for opportunities for professional learning in mind

Conceptual Framework	Code	Definition	Examples
	resources strategically	by optimizing how resources are used or allocated to support teaching and learning	- Management of their own time - Schools schedule to provide common planning etc - Limit teacher responsibilities for teachers to focus on teaching - Manage external social capital by interacting with external stakeholders - Resource management - Strategic personnel management - Hire high-performing teachers - Assignment and placement of teachers/staff - Retention of staff
Skills	People	Develop and interact with people in and around their school: teachers, support staff, parents, and the broader community.	- Develop and interact with people - Caring - Proactive support for new teachers - Committed success of all teachers - Creating safe and nurturing environments - Collective responsibility - Communicate purposefully - Implement strategies (i.e. open door, weekly communication, etc) - Willingness to have challenging conversations - Effective communication to parents - Cultivate trust - Empower teachers - Teacher autonomy - Serving as visible community leaders
Skills	Instructional	Supporting and leading the school's instructional program	- Support and lead instructional programs - Expertise around high-quality instruction - Observe and evaluate teachers and classrooms in a constructive manner - Distinguish high from low-quality pedagogical practices - Provide effective, structured feedback to teachers - Motivate teachers to refine practices - Recognize characteristics of high-impact professional development offerings
Skills	Organization	A general class of management skills that transcend schools	- Manage a complex organization - Traditional management skills - Include developing a safe environment - Managing budgets and resources - Hiring personnel - Organizational management skills

Conceptual Framework	Code	Definition	Examples
			• Maintaining facilities • Data use to set goals • Think strategically about how to harness available resources
PPL Type	Applied Learning	learn by engaging in direct application of skills, theories and models. learn by engaging in direct application of skills, theories and models	• Learn a new leadership concept by using a framework within the session • Working through problem scenarios that are similar to real world issues • engage in context-specific problem-solving • activities with colleagues • learning to conduct classroom observations or support for coaching a teacher about formative assessments in the classroom
PPL Type	Mentoring & Coaching	Providing guidance, direction, and support to less experienced principals from their more experienced peers	• mentors working with less experienced principals • engaging in context specific problems with more experienced principals • Work with a coach to learn about new leadership techniques • Work with a coach to walk classrooms looking at instruction
PPL Types	Network Building	Building networks with other principals to work on common problems of practice	• professional learning communities • networks or PLCs meet regularly and collaborate on common problems of practice • Working with a group of principals in a similar school context
PPL Content	Change Management	Managing change in the school environment	• select instructional materials to pilot in teachers' classrooms • Leading committees/ staff for determining school vision • Navigating communication with stakeholders about upcoming changes
PPL Content	Creating Collegial Environments	Creating environments for students and staff that allow for environments of mutual respect	• creating a schedule that allows for common planning • spending time with staff developing norms • working on school culture with staff and students

Conceptual Framework	Code	Definition	Examples
PPL Content	Improving Instruction	Focusing on improving instructional practices that include academics, social emotional wellbeing, and equity	• strategies for guiding teachers' instructional improvement • identifying culturally responsive tools • teacher feedback