

Enhancing the Instructional Leadership Skills of Regional Shared-Time Center Directors

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Abstract

This is a report on early findings from a Development and Innovation study designed to explore a model for enhancing the instructional leadership skills of shared-time technology center directors in the United States. A two-phase, iterative approach to curriculum and pedagogic design will be tested. The preliminary findings from the first phase are reported here.

Keywords

- Regional CTE Centers
- Leadership development
- Instructional improvement

Introduction & Conceptual Framework

The purposes of the project are to develop, pilot, and study the promise of a leadership academy designed to increase the ability of school leaders at shared-time technology centers to work with their teachers as instructional leaders and improve outcomes for their students. Evidence suggests that school leaders' instructional leadership skills can positively impact student learning through their direct influence on teachers' instruction (Gaffney & Faragher, 2010; Wallace Foundation, 2013). However, many technology center directors lack sufficient knowledge and experience in providing high-quality Career and Technical Education (CTE) instruction. Earlier research has shown that providing professional learning through workshops and job-embedded coaching can develop center directors' knowledge and skills in this area. Additionally, focusing professional learning around current Perkins legislation, supporting teachers who come from industry rather than traditional teacher preparation programs, and collaborating with postsecondary representatives and business/industry leaders can be particularly beneficial.

Shared-time technology centers represent a poorly understood segment of our national K-12 education system. A unique aspect of these centers is that their students typically complete core academic classes at their home high school and CTE classes at the technology center. For these students, traveling to a technology center to attend CTE classes typically begins in grade 10 or 11.

The role of technical centers in the delivery of secondary CTE education services is highly variable across states. Some states—such as North Carolina (which has only nine technical centers in the state)—rely almost entirely on comprehensive high schools for the delivery of CTE instruction. Other states—such as Alabama (which has 65 centers), Mississippi

(which has 93 centers) and Virginia (which has 54 centers)—rely more on technology centers to deliver CTE instruction. Kentucky is one of the states that uses technology centers as the primary means to delivery of many secondary CTE education programs. For example, in 2020, its network of 101 technology centers enrolled more than 58,000 students. In 2020, 7,9416 (out of 14,257) 12th-grade students completed a CTE pathway via shared-time technology centers). Across the country there are 990 shared time technology centers, designated by NCES as “vocational schools,” delivering CTE education to secondary CTE, and little attention has been given to the training of the leaders of those centers.

In recent years, while career and technical education has assumed greater importance in the view of policymakers, educators, and the public, preparation programs for school leaders who have a strong understanding of CTE have steadily declined. For example, in a reduction from previous years only nine states offer university programs designed to prepare administrators to serve as instructional leaders for CTE (Zirkle & Jeffrey, 2017). One recent study found that 25% of CTE administrators had never served as CTE teachers (Yost et al., 2019). And while most states have been working to improve their career pathways in K-12, developing effective school leaders with a strong understanding of CTE has not been a part of that work (Almada et al., 2018). These factors and others point to the importance of a systematic study of potential approaches to improve the instructional leadership skills of center directors, including the following.

There are unique challenges specific to the context of providing instructional leadership for CTE directors/leaders at the secondary level. First, CTE students do not mirror the overall student population, as CTE students are more likely to have individualized education plans (IEPs) and come from lower socioeconomic backgrounds (NCES data previously cited). Second, more than 30% of CTE teachers enter the profession through alternative certification routes (NCES, Table H120). Many of these teachers completed few education classes in college and had minimal training in instruction and pedagogy. As a result, novice CTE teachers may need more support than novice teachers in other subjects. CTE teachers also have a national attrition rate 60% higher than average attesting to the need for better instructional leadership. Third, teaching and learning in CTE classrooms are qualitatively different than they are in core subject areas. CTE classrooms typically include more hands-on work, more project-based learning, and more emphasis placed on students working in teams. Fourth, while all school leaders must be adept at building relationships within the broader community, CTE leaders have a particular challenge in building and maintaining relationships with the business community and employers to ensure that quality work-based learning experiences are available to students and to ensure the curriculum is relevant to workforce needs.

A priority area for instruction at shared-time technology centers is career readiness. Career readiness requires a blend of academic, technical and employability skills, and the ability to apply these skills in authentic environments. Simply put, career readiness includes developing related academic skills, generalizable employability skills and specific technical skills required for different career pathways (Stone, 2014). While many of the skills, attitudes and knowledge that define career readiness overlap with those of college readiness, e.g., literacy and numeracy, the combination of these two types of readiness demands important shifts in leadership thinking and practices. CTE teachers face the challenging task of effectively integrating academic content

and skills with CTE content and skills and work-based learning. Thus, CTE leaders need to have a strong understanding of curriculum and instruction to help their teachers integrate academic and technical subjects (Jones & Weigel, 2014). According to Clark & Cole (2015), “it is deeply concerning that administrators with little experience in the pedagogy, expectations, accountability, and theoretical frameworks of CTE are hiring and evaluating instructors and providing leadership for cutting edge CTE” (p. 76).

School leadership has been shown to be essential to school improvement. Along with direct effects on teachers, it can have indirect positive effects on student achievement. Almost four decades of work substantiate the importance of leadership and how leaders influence student achievement indirectly through their impact on teacher effectiveness (Gaffney & Faragher, 2010; Hitt & Tucker, 2016; Louis et al., 2010; Wallace Foundation, 2013). Research over the past two decades has shown that leadership is second only to teacher quality in creating effective schools, with teacher effectiveness accounting for nearly 33% of variance in the impact of schools on student achievement and leadership accounting for approximately 25% of the school’s impact (Leithwood et al., 2008; Louis et al., 2010; Marzano et al., 2005). In a comprehensive study of school reform in Chicago, Bryk et al. (2010) found that schools with strong leaders were seven times more likely to substantially improve achievement in mathematics and four times more likely to substantially improve achievement in reading than schools with weak leadership. Quality of leadership is particularly important in low-performing schools where school improvement does not occur without strong leadership (Aladjem et al., 2010; Bryk, et al., 2010; Louis et al., 2010).

High-quality CTE experiences are critical to ensuring that all students are prepared for college and careers. Today more than one in five high school students take four or more of their high school courses in a CTE area (Musu-Gillette et al., 2016). Nationwide, there were approximately 8.3 million students enrolled in CTE courses in 2016-17 (Perkins Data Explorer, U.S. Department of Education [USED]).

CTE advocates cite several goals of career-oriented learning experiences. For non-college-bound students, CTE can translate directly to employment upon graduation. CTE also teaches students the employability skills that employers value and that serve students well in college (e.g., persistence, teamwork). By integrating academic skills into a *real-world* context, CTE classes can motivate students to attend school more frequently and be more engaged, thereby improving core academic skills (Jacob, 2017). CTE programs have also been found to increase graduation potential and reduce dropout rates (Stone, 2014); encourage participation in postsecondary education; and enable students to earn dual enrollment credits, industry-recognized certificates, and technical endorsements on high school diplomas (Castellano et al., 2016; Dougherty, 2016).

The line of argument presented above can be summarized as follows: (1) There are unique challenges specific to the context of providing instructional leadership for CTE. (2) School leadership has been demonstrated to be essential to school improvement, directly related to teacher practice, and indirectly related to positive student achievement outcomes. (3) High-quality CTE is critical to ensuring that all students are prepared for college and careers. If

these points are all accepted, it logically follows that there is a need for leadership training specific to CTE — a need that is currently almost entirely unmet.

Methodology

This study is designed to examine the usability and implementation of the CTE Leadership Academy professional development delivery model, as well as its promise for impacting leader, teacher, and student outcomes. It is also designed to estimate costs associated with implementing the Academy. The following research questions guide the research study:

1. What are the current professional learning needs of CTE leaders in Kentucky?
2. Is it feasible to implement the CTE Leadership Academy professional development delivery model as intended?
3. Does the CTE Leadership Academy professional development delivery model show promise in improving CTE leadership practices?
4. Does the CTE Leadership Academy professional development delivery model show promise in improving teacher practices?
5. Does the CTE Leadership Academy professional development delivery model show promise in improving CTE outcomes for students?
6. How much would it cost for a state to implement the Leadership Academy professional development delivery model?

The study design includes two phases. Phase I, the focus of this paper, was designed to develop and test the usability and feasibility of the CTE Leadership Academy (research questions 1 and 2). Researchers made refinements to the Academy based on findings from Phase 1. Phase 2 will test the refined Academy model through a randomized control trial design to test the Academy's impact on CTE leaders' practices (research question 3), teacher practices (research question 4), and student outcomes (research question 5). The final research question will be addressed in Year 4 of the study.

CTE Leadership Academy Design

The Academy is a single, cohesive intervention comprised of a needs assessment process and building on those findings to design a series of in-person workshops, embedded assignments, virtual professional learning community meetings (PLCs) and coaching for center directors. It follows the model of Sequenced Learning Model as described by Fry-Ahearn and Collins (2016): acquisition, application, and feedback. The professional development component of the Academy utilizes a Sequenced Learning Model based on the idea that learning is enhanced when knowledge acquisition is followed by opportunities to apply that knowledge, and when the learner receives feedback and reflects on his/her performance. The basis for this model is found in the work of learning theorists and instructional design experts from Gagne to Marzano (Dowling, 2001; Dean et al., 2012). The Academy adheres to this model by including application activities in each workshop so participants can immediately apply what they are learning in a low-risk environment.

Key to this Academy design is the use of *iterative delivery*. Academy designers employed the *Plan–Do–Study–Act* (PDSA) cycle as building blocks of an iterative development

process that to enable an assessment of the impact of each component and support continuous refinement of the design and content of the Academy components (Blasé & Fixsen, 2013). With these cycles, the Academy designers can refine components promptly by providing the curriculum design and training and coaching teams with relevant data in time to make needed changes before a component is implemented again. For example, while there will be only two iterations of the full Academy, the individual workshops, assignments, and virtual PLC content can be considered iterations for the purpose of continuous improvement and refinement. This type of short-cycle formative evaluation provides multiple benefits (Leis & Shojanian, 2016), including 1) efficient use of data (i.e., collecting just enough to inform the best action forward); 2) high “return on failure ratio” (valuable lessons learned with minimal resources invested); 3) recognizing necessary refinements to the intervention promptly; 4) anticipating what might go wrong during implementation of the next step or phase; 5) increasing confidence the intervention will produce improvement; 6) engaging stakeholders in development of the intervention; and 7) minimizing resistance when changes are implemented.

Sample

Kentucky was selected as the ‘sample’ state for this study because of its diversity of technical centers (urban and rural), its mixed economy (e.g., manufacturing, agriculture), its history of working with and supporting research and the Kentucky Department of Education’s willingness to facilitate and support the current research.

Data provided by the Kentucky Department of Education (KDE) for 2019-20 for its 101 centers show 58,161 students enrolled of which 44% were female, 64% were economically disadvantaged and just over 10% were students with disabilities. The instructional staff size ranges from 5 to 13 CTE teachers per center, with an average of eight. Centers vary in enrollment, ranging from eighty-three students to as many as 1,971 students. (median=544 and mean=576) Of the 101 centers, 48% have an NCES locale designation of Rural (Fringe/Distant/Remote), and 29% are designated as Town (Distant/Fringe/Remote) with only 23% designated as City or Suburb. Shared time centers in Kentucky operate under two forms of governance. About half of the centers operate under direct control by the department of education, the other half under a local education agency.

To test the feasibility and useability of the Academy model (Phase I of the study), ten center directors were invited to participate. These center directors were purposefully selected as potential participants to ensure the sample reflected a mix of large and small, rural, and urban centers. Financial incentives along with college credit were offered to encourage their participation.

Data Collection

The study relied on several data collection methods to assess the usability and feasibility of the Academy.

Online Participant Surveys. To assess the usability of the Academy professional development delivery model and the extent to which it is feasible for CTE leaders to participate

as intended, researchers designed and administered three online surveys to gauge Academy participants' perceptions regarding the usability and feasibility of participating. The surveys included open-and closed-ended questions that asked participants to provide feedback on the professional learning communities (PLCs), the coaching sessions, and the professional development workshops they had participated in to date. The surveys also included items to gauge participants' overall perceptions of the Academy to date. Researchers used Alchemer, an online survey management program, to administer the survey to the 10 CTE directors participating in the usability and feasibility study in June 2022, February 2023, and May 2023.

Telephone Interviews with Academy Participants. In the early spring 2023, researchers conducted telephone interviews with center directors in the usability and feasibility study. The purpose of these interviews was to follow up on any questions, concerns, or critical feedback that became apparent through the online surveys. Specifically, the protocol included questions about participants' perceptions of the organization, relevance, and usefulness of the different Academy components. It also included questions about their overall experience in the Academy related to time commitments and logistics, and a question about considerations the project team should make for a larger cohort.

Implementation Team¹ Feedback Sessions. During the implementation period, members of the project's core planning team held two feedback sessions with the Implementation Team, which included the Academy instructors/coaches. The purposes of the implementation feedback sessions were to gauge the implementation team's perceptions regarding implementation, to document which components were and were not implemented as intended, to determine why any implementation modifications were made, and to identify implementation successes and potential challenges.

Program Records. Throughout the study, the Implementation Team shared data from delivery of Academy components, attendance records, coaching records, and completion of assignments with researchers for review. The purpose of sharing these records was to provide additional context about implementation of the Academy during the usability and feasibility study.

Data Analysis

Researchers conducted a variety of quantitative and qualitative analyses of data collected through surveys and interviews during Phase I of the study. Researchers imported quantitative survey data from closed-ended survey items into IBM SPSS and calculated descriptive statistics including frequencies and percentages. Researchers conducted content analyses of qualitative survey data from open-ended survey items, using the overall survey purpose and questions to provide context and understand the responses (Jackson & Trochim, 2002).

Two researchers independently coded interviews and established a common codebook to ensure the accuracy and validity of the qualitative analyses. To prepare interview data for

¹ The study was managed by two teams: A Core Planning team and an Implementation Team. The former includes the study PI, an SREB senior research associate, and the SREB director of resources and programs for the SREB. The latter includes the Core Planning team and the four SREB coaches.

qualitative analyses, researchers cleaned interview transcripts by listening to the original audio of the interview and confirming the accuracy of the transcript. Then, researchers imported the transcripts into Atlas.ti, a software program that facilitates qualitative analysis via data segmentation, coding, and organization. The analysis process began with a thorough review of the interview data. Then, researchers identified a list of potential themes. Next, researchers independently analyzed a sample of interviews by developing codes to represent the salient themes (Saldaña, 2014) and using Atlas.ti to apply codes to data pieces. This iterative process continued until saturation was reached and no new themes were present in the data (Saunders et al., 2018).

To triangulate findings across data sources, researchers compiled all the data related to the specific components of the Academy (e.g., the orientation, Summer Conference, PLCs, and coaching). Then, researchers reviewed the findings within each component for common themes across data sources (e.g., surveys, interviews). Finally, researchers reviewed findings across all components to identify cross-cutting themes.

Implementing the Academy

The Career and Technical Education Leadership Academy (the Academy) included the initial needs assessment and the professional development components for center directors over a 12-month period.

The comprehensive needs assessment identified the perceived instructional leadership learning needs of shared-time center directors in Kentucky. Findings from the needs assessment informed the content and focus of the Academy professional development components. The needs assessment included three elements:

- a. An online, state-wide survey of all, 101 Kentucky center directors,
- b. A review of Kentucky extant data to review CTE outcomes (e.g., course credits earned, pathway completions, industry certifications, and achievement gaps amongst subgroups) and school leadership characteristics, as well as school climate data.
- c. Two focus groups following the administration of the online surveys and the review of extant data. One focus group included center directors and the other included CTE “customers” (e.g., postsecondary faculty, business and industry leaders, community leaders).

Based on the needs assessment findings, three types of structured professional development experiences were developed.

- 1) Multi-modal professional development (i.e., a five-day summer institute concurrent with a national professional development conference, four days of face-to-face workshops, and six virtual professional learning community--PLC—meetings).
- 2) Job-embedded assignments that participants completed in their centers; and
- 3) Three days of one-on-one, onsite, and virtual leadership coaching for participants that occurred between workshops.

All needs assessment data collection was completed by the end of March 2022. Using findings from the needs assessment, the Core Planning Team identified key learning goals and determined to focus on the leadership challenges specific to the CTE context and especially, those of shared-time centers. As part of the process of developing the Academy focus and content, professional development leaders sought to balance the importance of different topics as well as the most logical order in which to address them. One of the challenges the planners faced was that in their responses to the needs assessment survey, center directors asked for the availability of choices in professional learning, but the goal of this study is to develop a replicable program of professional learning for CTE leaders. To address this conundrum, the Core Planning Team decided to develop a system of replicable seminars with consistent content, which could be personalized by center directors/academy participants as they engaged with that content in completing authentic assignments.

The team identified the following seven foci and supporting topics to be addressed in the Academy curriculum (several foci and topics are addressed at multiple points):

1. Understanding center director roles and responsibilities (this is seen as a necessary introductory topic): Focus on developing a culture of leadership for continuous improvement.
2. Setting a vision and a culture of high expectations including strategic planning, ensuring students develop employability skills and ensuring all programs are of high quality.
3. Career pathways with a focus on partnerships, high-quality work-based learning, deep connections with postsecondary institutions and student recruitment and advisement.
4. Accountability with a special focus on the Perkins V requirements embedded in the Comprehensive Local Needs Assessment (CLNA) as well as more general state and federal career readiness standards.
5. Supporting instruction. This category included an emphasis on recruiting and retaining teachers and developing their classroom skills, especially those unique to CTE.
6. Securing funding and leveraging resources
7. Managing relationships/partnerships with sending schools and districts and external partners and parents.

The emergent framework was mapped onto the Academy’s structured and unstructured learning time. Structured learning time included the five-day summer institute and four day-long seminars offered during the academic year. Unstructured learning time included the six PLC meetings, three coaching visits and three major, embedded assignments. The Academy sequence that emerged is shown in Table 1.

Table 1: Tentative Sequence of CTE Leadership Academy Professional Learning Delivery*

Date	Component	Details
March	Participant Orientation	Virtual
July 18-22, 2022	Summer Institute	Offered in conjunction with a national, school-improvement conference.
September - 2022	PLC #1	Virtual

Date	Component	Details
October 2022	In-Person Seminar #1: Career Pathways	Building and managing relationships; marketing; advocacy, work-based learning, student guidance/advisement
October 2022	PLC #2	
(various TBD)	Individual Coaching Session 1	Focus on the director's professional growth plan
November 2022	In-Person Seminar #2: Supporting teachers and instruction	Powerful Instructional Practices for CTE; integrating class/lab instruction with work-based learning and CTSOs, teacher recruitment and retention
November 2022	PLC #3	
(various TBD)	Individual Coaching Session 2	Focus on teacher support, conducting walkthroughs, assessing, and improving instruction
January 2023	In-Person Seminar #3: Part I: Accountability and data Part II: Leveraging resources and funding	College and career readiness: State and Federal requirements (Perkins V).
February 2023	PLC #4	
(various TBD)	Individual Coaching Session 3	Focus: Based on individual need and focus
April 2023	In-Person Seminar #4: Presentations of Capstone Projects	Presenters: Academy participants
April 2023	PLC #5	
May 2023	PLC #6	

Professional Learning Needs of CTE Center Directors

As part of the needs assessment the research team developed a survey to learn more about Kentucky CTE center directors' current professional development needs (Research Question 1). This report provides an overview of the survey and findings. Seventy-three center directors completed the needs assessment survey for a response rate of 75%. The final responses represented 100% of state operated centers and 48% of locally operated centers. Center directors reported an average of 21 years of education experience, six years as a center director and five years in their current center.

To this job they brought a mixture of educational experiences. More than half did not have a CTE teaching background (Table 2). Participating CTE center directors also shared information about their academic preparation. The following were the most reported degrees and majors by degree type:

- Associate degree ($n = 15$): Education majors, STEM and CTE-specific majors

- Bachelor’s Degree ($n = 69$): STEM and CTE-specific majors; Business, Marketing, and Advertising majors
- Master’s Degree ($n = 70$): Leadership-specific majors; Principal majors
- Ed Specialist Degree ($n = 31$): Leadership-specific majors

Table 2. Survey Participant’s Education Background

Doctoral Degree ($n = 11$): Education majors Teaching Subject Areas	Number of CTE Directors reporting experience	Commonly reported subject areas	Average years’ experience
CTE Subject	39	Business & Marketing; IT, Technology & Engineering; Agriculture; Construction; Health; Welding	11
Academic Subject	32	Science; Math; ELA; Health; History; Art	11
Other	12	Principal; Other miscellaneous, non-CTE subjects	9

A second data source for the needs assessment was the Kentucky Department of Education. The state collects extant data from all schools, including regional technical centers, ATCs and CTCs. These data will be used to compare the Phase II cohort participants selected for the study on key metrics to determine their representativeness. The data were also useful in identifying needs for focused professional learning with the CTE Academy.

Findings from the needs assessment survey yielded seven foci for a Technology Center Leadership Academy:

- Teacher and faculty recruitment (including guidance on how to recruit from underrepresented communities)
- Work-based learning (including guidance and support around identifying and building appropriate experiences for students, engaging all students, meeting the needs of students from special populations, and negotiating training agreements)
- Meeting Perkins V accountability requirements (including guidance on how CTE center directors can help ensure that their students obtain a Tech Ready Apprentices for Careers in Kentucky (TRACK) certificate)
- Securing appropriate equipment and facilities (including guidance on how CTE center directors can obtain state of the art equipment and facilities for their centers)
- Teacher support and development (including guidance on involving faculty in distributed leadership, providing feedback to faculty to improve their teaching and other aspects of their job performance, supporting teachers in incorporating virtual learning, and ensuring that teachers are prepared to meet the needs of diverse learners)
- CTE program development and pathways (including guidance on how to ensure that their CTE programs are non-duplicative, vertically aligned, aligned with post-secondary

education, and that they address soft skills and integrate academics, including math, ELA, and science)

- Managing relationships (including guidance on managing external relationships, engaging with regional employers from in-demand industries or occupations, and engaging parents and representatives of special populations)

Findings from the needs assessment survey also yielded the following recommendations for Academy delivery mechanisms:

- In-person opportunities (provide in person and/or hybrid opportunities that allow for some in-person training)
- Appropriate timing (ensure that the professional development does not conflict with school schedules)
- Time for CTE center directors to connect (provide opportunities for CTE center directors to connect and learn from each other)
- Choice of topic (allow CTE center directors to choose their professional development based on their unique needs)
- Qualified trainers (ensure that the trainers delivering the professional development come have a background in CTE)

An initial comparison of the 10 Centers selected for the Feasibility/Usability cohort to the overall state data showed they were similar to state data in terms of size and variety of offerings. Because of the variability of how Kentucky school districts report student data, it was not practical to compare Kentucky student performance data to a national sample. Similarly due to great variability in how regional shared-time centers in other states report student data there are no extant national data sources to access for comparison.

Preliminary Findings from the Usability/Feasibility Cohort

Survey and telephone interview data were collected from Academy participants to gauge their perceptions of the Academy and examine its usability and feasibility. Surveys were administered following the initial professional development sessions aligned with a national leadership conference (summer 2022), in the following winter and in late spring, and interviews were conducted in the spring 2023.

Key Findings Regarding the Academy Orientation. Survey findings suggest it was feasible for CTE directors to participate in or watch the virtual Academy orientation, as all respondents indicated they had participated in or watched the recording of the orientation. Most survey respondents shared positive feedback about the orientation, with some noting they would have benefited from additional clarity on expectations and the study purpose, benefits, and drawbacks. During interviews, CTE directors shared similar perspectives. Some noted how the orientation met their expectations and was clear, while others shared that they were still unsure of the expectations for the Academy after the orientation.

Key Findings Regarding the Academy Summer Conference. Overall, CTE directors shared positive feedback about the summer conference and said it was feasible to participate. Specifically, most survey respondents rated the delivery, content, and

overall quality of the Monday, Tuesday, and Friday conference sessions positively. Additionally, most noted that they appreciated the Wednesday and Thursday Academy debriefing sessions. Some CTE directors indicated that networking and learning from other CTE leaders were what they liked best. While two thirds of the survey respondents shared that it was easy or very easy to participate in the summer conference, some noted that it was difficult to participate due to travel or competing obligations. Additionally, all respondents shared that they thought it would be feasible for other CTE directors to participate in this type of summer conference.

Key Findings Regarding the Academy PLCs. On the survey, CTE directors rated the organization, value, and quality of the PLCs highly. They shared that they particularly liked the discussion and exchange of ideas, the sense of community and opportunity to connect with other CTE Leaders, the format, and the focus on CTE leader needs. During interviews, CTE directors shared positive feedback about the relevance and usefulness of the topics covered in the PLCs. Some CTE directors indicated the following areas for improvement: more or different topics, sufficient time for discussion, more direction or clarity on the goals, various times (i.e., not during the school day), record the sessions for those who could not attend, and ensure there are multiple designated Zoom hosts.

Key Findings Regarding the Academy Coaching Sessions. CTE directors rated both the in-person and virtual coaching sessions positively. When asked about the in-person sessions, some CTE directors shared that they especially liked being paired with a knowledgeable and experienced coach who could relate and share guidance, the dialogue they had with their coach, and the personalized feedback. Some respondents indicated they would like more in-depth review of issues, more direction or clarity on the goals, and more updated or relevant feedback. When asked about the virtual sessions, respondents shared that they particularly liked the personalized approach, being paired with a knowledgeable coach, following up on content from the in-person session, and the same things as the in-person session. One respondent recommended a more in-depth review of issues and solutions as an area for improvement, and others did not offer any recommendations.

When asked about preferences regarding which approach to coaching (in-person, virtual, or a combination) best met their professional development needs, survey responses varied, with some sharing they preferred in-person, some sharing they preferred a combination, and one CTE director indicating no preference. During spring interviews, two CTE directors expressed a preference for the in-person sessions.

Key Findings Regarding the Academy Professional Development Workshops. Throughout the school year, CTE directors took part in four professional development workshops as part of the Academy. Most respondents rated most aspects of the workshops positively. Respondents shared that they liked the following aspects of the workshops the best: the collaboration, relevant discussion, and networking with colleagues; the structure and format; specific topics (e.g., data, school culture); all aspects of the workshops; and the assurance that CTE leaders are doing what they need to be. CTE directors also shared

that the workshops were well-organized, with clear goals and content and that the workshop format was well-balanced between the lecture, large group discussions, and small group discussions. CTE directors also shared the workshops covering relevant content.

Key Findings Regarding the Overall Experience Participating in the Academy. Most CTE directors indicated they will be able to implement what they are learning through the Academy in their own center. Most also indicated it has been easy or very easy to participate so far, but two noted difficulties, such as time away from family. During interviews, perspectives on the extent to which the amount of time required to participate was varied. Some CTE directors shared the travel logistics went smoothly whereas others mentioned travel was more burdensome for those who lived further away. CTE directors noted that they valued the networking and relationship building with their cohort and that the professional development team was responsive to their feedback. CTE directors also offered constructive feedback, with some sharing that additional collaboration time would have been helpful and that although meeting for some components made things easier to schedule, it was not as effective for learning as in-person meetings. Most survey respondents indicated that they thought it would be feasible for other Kentucky CTE directors to participate in this type of CTE leadership academy.

When asked what has been most valuable so far, survey respondents indicated that the camaraderie and collaboration with their cohort, working with facilitators, the in-person time, and specific topics they learned about were the most valuable aspects of the Academy. Alternatively, when asked which aspect has been of least value, respondents mentioned the following: needing more guidance or clarity during the beginning of the CTE Leadership Academy, the summer conference, specific topics (e.g., conversations about budgets), and the required assignments. Additionally, some CTE directors offered recommendations for replicating the Academy with a larger cohort, such as finding ways to create small groups within a larger cohort.

Discussion

The purpose of this phase of the study was to determine if the Academy model were feasible to implement and if it would be usable to participants. Overall, the survey data, formal interviews with participants and informal feedback from the professional development staff and coaches indicated the Academy model was usable to the participants and the structure was feasible to implement with modifications. The unintentional creation of communities of practice, as in other studies (Stone, et al, 2005, 2006), proved to be valuable to participants.

Numerous recommendations and/or issues arose from the participants' surveys and interviews, the research team's observations, and the professional development staff feedback. These will be used to revise the Academy for the pilot study in Phase II. A summary of these include:

1. Disentangle the summer workshops from the national school improvement conference. The logistics proved daunting, and many participants found little that was offered in the non-Academy workshops of value. It also added to participants' time away from home.
2. The networking and collaboration opportunities among participants were particularly valued and should be expanded.
3. Participants came from shared-time technology centers that were operated by the state and locally operated. The differences in the governing and reporting structures of these two types of centers may necessitate variations or adaptations to the content of the Academy for different participants.
4. The location of the in-person sessions proved to be problematic for some. Pike County in the eastern Kentucky mountains is more than three hours from Lexington, and another hour away from Louisville; Fulton County on the Mississippi River is more than five hours from Lexington. This geography meant there was no central location in easy driving distance for all participants.
5. Related to item #4, in-person coaching proved to be time and budget prohibitive. All the coaches had other work responsibilities aside from their role in the study. One day of coaching might require 3 days to travel and expenses depending on the center location.
6. Additional clarity on the expectations, benefits, and drawbacks of participating in the Academy would benefit future participants.

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