

CTE Instructional Coaching Resource Guide

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Table of Contents

Introduction 2

The Purpose of this Guide..... 2

Section 1: Pennsylvania CTE Instructional Coaches..... 4

Section 2: Coaching Career and Technical Educators 11

Section 3: Data Driven Coaching 13

Section 4: How Do Coaches Learn to Coach? 15

Section 5: Profiles of Coaching Success..... 17

Section 6: Attributes of Outstanding Coaches 19

Conclusion 20

Appendices 22

Introduction

While Career and Technical Education (CTE) teachers are typically considered to be experts in their industry or field, they often join the teaching profession without extensive background or formal training in instructional strategies and practices. To support CTE teachers and to ensure that their instruction meets today's high standards, many career and technical centers (CTCs) throughout Pennsylvania have embraced instructional coaching as an ongoing, classroom-embedded professional learning model.

Instructional coaching improves the quality of teaching and, as a result, increases student engagement and achievement. An instructional coach is an experienced teacher with communication and pedagogy expertise whose primary responsibility is collaborating with classroom teachers. Instructional coaches ask questions and challenge assumptions. They are highly skilled in research-proven, high-impact classroom practices and know which of these to suggest based on coaching conversations and classroom data collection. The coaching cycle is highly collaborative and data-driven, and it focuses on teachers' self-identified needs. Collaboration between teachers and the instructional coach may involve co-teaching, model teaching, and classroom data collection. Coaches maintain confidentiality unless permission to share is granted by the teacher.

Instructional coaches are part of the teaching staff, although they typically do not have classroom teaching responsibilities. Coaches neither have administrative responsibilities nor participate in, nor contribute to, teachers' evaluations. When teachers are confident that coaches are "in the trenches" with them, effective coaching collaborations are more likely to take place. However, it is equally important that administrators and instructional coaches meet regularly to ensure that coaching practices align to the administration's vision and goals.

An effective instructional coaching program can make a positive impact on the school's culture. As more teachers engage in the coaching cycle, and implement research-proven instructional practices with fidelity, schools develop a culture of continuous learning and improvement. Teachers, sometimes unaware of this shift, begin having reflective conversations around content, pedagogy, and students' behavioral changes.

The Purpose of This Guide

To better understand and share the work of instructional coaching at career and technical centers, the Pennsylvania Department of Education's Bureau of Career and Technical Education (BCTE) implemented the Instructional Coaching Professional

Learning Community (PLC) during the 2014-2015 school year. Eighteen coaches and instructional leaders from Pennsylvania's CTCs participated in the PLC (see Appendix A for a list of participants). Over the course of the year, the PLC met during four virtual and three live meetings. To promote ongoing dialog and networking, the coaches also had access to an active online forum.

As a culminating project, Instructional Coaching PLC participants were asked to share one lesson plan that they developed in collaboration with a classroom teacher from the following BCTE programs of study:

1. Computer Technology
2. Electromechanical Technology
3. Homeland Security
4. Institutional Food Worker
5. Mason/Masonry

Their contributions serve as examples of lessons that integrate rigorous technical and academic skills. The complete lesson plans, which are indexed in Appendix B, are available electronically at [CTE Resources](#).

Consultants from the National Center for College and Career Transitions (NC3T) facilitated the Instructional Coaching PLC and prepared this summary report. While the primary intention of the PLC was to build connections among Pennsylvania's CTC instructional coaches, allowing them to share resources and successful practices, the purpose of this report is to provide CTC administrators with an overview of proven practices, responsibilities, and attributes and to serve as a resource for new and current instructional coaches.

To provide greater insight into their work, the Instructional Coaching PLC participants were asked to respond to several prompts over the course of the 2014-2015 school year; their comments are shared throughout this document.

Many excellent books, studies, and articles provide guidance on developing an effective instructional coaching model. A list of recommended reading, suggested by PLC participants, is provided in Appendix C. Rather than reiterating information found in these resources, this report focuses on the insights and advice shared by members of the BCTE Instructional Coaching PLC.

Section I

Pennsylvania CTE Instructional Coaches

Some instructional coaches focus on one area of content, which is reflected in their title. Literacy or reading, math or numeracy, technology, and data are common instructional coaching titles. Often, however, coaches find their areas of expertise overlapping. For example, the literacy coach may find herself working with a teacher whose students demonstrate difficulty reading math problems. To optimize coaching resources in schools with more than one content-focused coach, regularly scheduled planning and collaboration time for coaches is recommended.

Instructional Coaching Job Description

Pennsylvania's CTCs develop their own instructional coaching job descriptions; excerpts are provided in Appendix D. A review of these and additional job descriptions reveal the following common requirements:

1. Classroom teaching experience (minimum of three to five years).
2. Knowledge of state standards.
3. Outstanding presentation, facilitation, and communication skills.
4. Willingness to assume leadership positions.
5. Knowledge of researched-based instructional strategies, conditions of learning, and assessment driven instruction.
6. Ability to design and deliver professional learning opportunities.
7. Knowledge of curriculum and subject matter.
8. Knowledge of data collection and analysis; ability to assist teachers with making data-driven instructional decisions.
9. Knowledge of student motivation and classroom management strategies.
10. Ability to model lessons effectively.
11. Ability to manage time and schedule with flexibility and independence.
12. Knowledge of, and commitment to, district and building improvement goals.
13. Ability to develop and maintain a confidential, collegial relationship with teachers.
14. Understanding of when to contact administrators regarding issues of safety/ethics.
15. Interest and engagement in personal professional learning and reflection.
16. Ability to function as a positive and collaborative member of a team.

A Day in the Life of an Instructional Coach

PLC members were asked to describe their "typical" day:

- No two days are alike. I co-teach, visit classrooms, provide resources, and support teachers in analyzing their data. I meet with teachers before and after the school day. Each month, I facilitate a professional learning community meeting for new teachers and facilitate professional learning

during school improvement plan meetings. Each year, I organize and facilitate learning walks.

- I don't have a typical schedule or day; each day and week is determined by who needs what and when they need it. My position is funded by Perkins so I am not permitted to take on non-coaching responsibilities.
- We are called integration teachers and each have a content focus (math or reading). We work with 23 teachers in six different high schools. Every Friday is set aside for departmental staff meetings. We do not have other duties when working in schools; our time is used solely for supporting program teachers. We use a co-teaching cycle and debrief soon afterward to reflect on its success. We create student data sheets to use as a resource when developing lessons.
- My coaching day is constantly changing. My goal as a numeracy coach is to collaborate with teachers to help them integrate math standards and math strategies into all CTC classrooms. Most teachers request that we co-teach.

Instructional Coaching Models

Instructional coaching is optimized when a consistent model or cycle is adopted. This model, along with the role of coaches, is presented to staff at least annually. Teachers who are aware of the coaching model and procedures are more likely to reach out to an instructional coach.

Identify, Learn, and Improve is a research-proven coaching model recently presented in *JSD: The Learning Forward Journal* by the highly respected Kansas Coaching Project and Instructional Coaching Group (Knight, et al., 2015). Jim Knight and other members of the project have studied instructional coaching since 1996. Most recently, their focus has been on the steps coaches use to assist teachers in meeting their self-identified goals.

Identify:

1. Teacher gets a clear picture of current instruction reality by watching a video of his or her lesson or by reviewing observation data gathered by the coach.
2. Coach asks the "identify questions" to determine a goal:
 - a. On a scale of 1 to 10, how close was the lesson to your ideal?
 - b. What would have to change to make the class closer to a 10?
 - c. What would your students be doing?
 - d. What would that look like?
 - e. How would we measure that?
 - f. Do you want that to be your goal?

- g. Would it really matter to you if you hit that goal?
 - h. What teaching strategy will you try to hit that goal?
3. Teacher identifies a student-focused goal.
 4. Teacher identifies a teaching strategy to use to hit the goal.

Learn:

1. Coach shares a checklist for the chosen teaching strategy.
2. Coach prompts the teacher to modify the practice if he or she wishes.
3. Teacher chooses an approach to modeling that he or she would like to observe and identifies a time to watch modeling.
4. Coach provides modeling in one or more formats.
5. Teacher sets a time to implement the practice.

Improve:

1. Teacher implements the practice.
2. Data are gathered (by teacher or coach, in class or while viewing video) on student progress toward the goal.
3. Data are gathered (by teacher or coach, in class or while viewing video) on teacher's implementation of the practice (usually on the previously viewed checklist).
4. Coach and teacher meet to discuss implementation and progress toward the goal.
5. Teacher makes modifications until the goal is met.

Several members of the Instructional Coaching PLC participate in the Pennsylvania Institution for Instructional Coaching (PIIC), an organization dedicated to expanding and improving coaching practices within the state. PIIC endorses the Before, During, and After coaching model based on the early work of Jim Knight.

Before: Pre-conference Planning

Coach and teacher discuss:

1. Purpose of the lesson.
2. Instructional strategies that are going to be used.
3. Penn Literacy Network (PLN) framework: Five Critical Experiences and the Four Lenses of Learning.
4. Formative assessment strategies that may be used.
5. Evidence of student engagement and learning.
6. Specific focus areas on which coach should concentrate.

During: Classroom Visit

Coach notes:

1. Teacher's purpose for the lesson.
2. Evidence of student engagement and learning.
3. Evidence of implementation of the PLN framework.
4. Evidence of formative assessment strategies.
5. Specific focus areas agreed upon during the pre-conference.

After: Debrief, Reflect and Plan

Coach and teacher discuss:

1. What went well based on the teacher's purpose of the lesson.
2. Evidence of student engagement and learning.
3. Other learning experiences for the teacher during this lesson as agreed upon during the pre-conference.
4. Practices the teacher wants to continue working on.
5. Date for next pre-conference, classroom visitation, or follow-up conversation.

A critical component of any coaching model or cycle is classroom-embedding learning and practice. This is achieved using a variety of approaches. For example, the coach may model a practice for a teacher in front of students or without students present. The teacher and coach may choose to co-teach, each taking the lead at predetermined times. The coach may arrange for the teacher to observe the instructional practice taking place in another classroom. Or, the coach and teacher might watch a video of the practice and discuss how it may be modified to meet the teacher's goal.

Working with an Instructional Coach

In an optimally effective coaching model, teachers request coaching; it is not mandated or assigned. Teachers who are instructed to work with a coach are often very resistant and results are minimal at best. New coaches find that it takes time for teachers to request their support; often the entire first year of coaching focuses on building relationships of trust.

From members of the Instructional Coaching PLC:

- Working with me is totally voluntary. Teachers call, email, or stop by and share their needs. Occasionally, a supervisor will suggest that a teacher contact me but they are never forced to do so.

- Working with coaches is mostly voluntary in my building. New teachers must participate in at least one individual coaching cycle, but any others are by choice. On occasion, an administrator will suggest that an individual choose to work with one of us, but that is still voluntary. The ideal situation is when a teacher contacts me because he/she would like to work on something. We meet and decide what it is that should happen in the classroom (before). Depending on the results of that meeting, I could be co-teaching, modeling an instructional practice, or watching and collecting data (during). We would then meet afterwards to reflect on what happened (after). I would call this our coaching cycle.

Keeping Track of Coaching Work

Coaches often juggle multiple tasks, so organization and planning are key to success. Several coaches have indicated that they are asked by administrators to track the amount of time they spend on various activities and with each program area. Examples of coaching logs are provided in Appendix E.

Comments from PLC members:

- We log all of our coaching activities. My Outlook calendar has become my greatest ally in the battle to stay organized. As a planning tool, I use Outlook to schedule meetings and lessons with teachers. As a reflective tool, I add notes regarding next steps and lesson success to the appointments. This system makes logging for Perkins very simple.
- I maintain a journal-type of weekly log, informally jotting down who I'm working with, their stated goal, and resources they might benefit from using. I also record time spent preparing schoolwide professional development, gathering resources, attending meetings, and traveling.

Additional Responsibilities

Instructional coaches are often involved in, or lead, other schoolwide professional development efforts such as the following:

1. Providing contractually required professional development during faculty meetings and in-service time.
2. Organizing and facilitating small group professional development events such as "lunch and learn" sessions and professional book studies.
3. Organizing and facilitating learning or data walks.
4. Facilitating professional learning communities.
5. Facilitating new teacher induction meetings.
6. Attending and presenting at school improvement meetings.
7. Organizing student achievement-related initiatives such as reading incentives.
8. Attending and presenting at professional conferences.

Several decades of research, including a Center for Public Education Research Review (2005), confirm that high quality teaching correlates to increased student achievement and engagement more than any other factor. In the absence of instructional coaches, teachers typically learn about research-proven practices during large group professional development sessions at school or conferences. Sometimes referred to as “drive-by” professional development, this training results in only a ten percent classroom implementation rate. By contrast, when personalized, one-on-one coaching collaboration takes place, implementation rates soar to 85 percent or higher (Knight, 2007).

The reasons for this are clear. Topics presented during teacher in-services are usually determined by administrators and are designed to disseminate schoolwide or statewide initiatives and goals. Instructional coaching, on the other hand, focuses on a teacher’s self-identified need. Training provided during in-service time can feel somewhat impersonal; without clear context the presentation is steeped in theory rather than classroom practice. Coaching is classroom-embedded; techniques are practiced and honed by the teacher in real time with the coach’s support. Not surprisingly, teachers are highly engaged in this relationship and apply their new learning more deeply, consistently, and with greater reflection than practices presented in schoolwide professional development sessions (Neufeld & Roper, 2003).

Here's what PLC members had to say regarding their involvement in schoolwide professional development:

- We design and provide professional development as needed. The formal, non-voluntary PD is scheduled for in-service days with topics that ranked as high-interest on teacher surveys. The format can be large group or small group depending on the needs. We also provide more informal, voluntary sessions through our Lunch and Learn sessions every Monday. In addition, we publish bi-weekly Tweaks of the Week to encourage reflection on various instructional ideas and issues.
- Administrators sometimes want to share an instructional approach with the entire staff. For example, our school adopted Collins Writing a few years ago. The coaches were asked to plan and facilitate a schoolwide PD session. It makes sense to do this when all teachers are required to attend; however, this type of PD is a little difficult because teachers are sometimes not invested in using the instructional practice.
- Whenever I’m asked to provide schoolwide professional development, I try to connect it to one-on-one coaching possibilities. If the topic is formative assessment, I remind teachers that I am available to do formative assessment data collection for them.

Section II

Coaching Career and Technical Educators

The coaching needs of career and technical education (CTE) teachers differ from academic teachers, according to participants in the Instructional Coaching PLC. They attribute these different needs primarily to the fact that, unlike academic teachers, CTE instructors usually begin teaching before receiving any pedagogy instruction. Consider that new CTE teachers may be unaware of the following:

1. CTE curriculum is highly rigorous in both academic and technical content.
2. Classroom management and the development of routines are essential to learning and are necessary from the first day of class.
3. There is much more to teaching than demonstrating technical skills; CTE teachers are expected to integrate grade-level reading, writing, science, and math throughout their curricula.

Unlike academic teachers, career and technical education instructors do not experience student teaching. According to participants in the Instructional Coaching PLC:

- Many new CTE teachers say they haven't been in a high school since they were a student. They were never highly confident in their own academic skills and are a little reluctant to include rigorous reading and math in their instruction.
- New CTE teachers are often overwhelmed and surprised by the out-of-school preparation and planning time necessary for teaching. Teacher buzz words and acronyms are also difficult to learn.
- Our new CTE teachers are surprised that their students aren't always highly engaged or well-behaved. They assume that because students choose to come to the tech school, they will be eager to learn.
- During the interview and hiring process, prospective CTE teachers discover that they will need to earn teaching credentials. However, once they begin taking the evening classes, they are exhausted by the work load.

New CTE teachers, according to participants in the Instructional Coaching PLC, often wrongly assume the following:

1. Math, reading, and writing are the sole responsibility of academic teachers.
2. Poorly behaved students are the responsibility of administrators.
3. CTE teaching is always hands-on; theory is not as important.

Coaches report that new teachers often realize they need help but are sometimes reluctant to admit it, are too overwhelmed to add “one more thing” to their day, or are unable to identify the support they actually need. CTE teachers come to the classroom after years of on-the-job experience where they were well-respected managers, supervisors, and successful small business owners. Discovering that teaching is far more than knowing the trade, new teachers are often overwhelmed by the day-to-day tasks required of the profession.

Longtime CTE teachers may also present challenges for instructional coaches, especially those holding on to the outdated mindset that their only purpose is to teach and demonstrate technical, hands-on skills. They may be reluctant to request coaching support because they assume little to no responsibility for integrating academic rigor into their technical content.

Section III

Data-Driven Coaching

Instructional coaching is classroom-embedded and, therefore, relies on classroom observation. However, some educators associate the term *observation* with evaluation and, therefore, the term *data collection* is recommended for use instead. Regardless of the coaching model or cycle, all coaching collaborations utilize data. At the start of the collaboration cycle, the coach may visit the classroom to collect baseline data. The cycle concludes with another data collection to measure the success of the newly implemented instructional practice.

Together with the teacher, the instructional coach determines what data to collect and how it will be collected. The coach is careful to collect only data aligned to the teacher's self-identified need.

Coaches who gather and share classroom data with teachers find that these conversations are more productive than conversations that do not include data. Nonjudgmental, descriptive data that capture a teacher's instruction along with the students' reaction enables the teacher to take ownership of successes and challenges. In essence, the data lead the coaching conversation. The teacher can interpret the data and adjust or identify professional goals. The coach can use the data to affirm or respectfully dispute a teacher's initial assessment of his/her teaching impact.

The instructional coach presents the data collection to teachers in an easy-to-understand format. Providing teachers with an overwhelming amount of complicated data is self-defeating. The instructional coach leaves the data with the teacher; she/he does not share it with administrators or other staff.

In addition to classroom data collection, instructional coaches may find other important data to discuss with teachers. Some CTCs provide teachers with a compilation of data specific to the students enrolled in their program. This may include pre-NOCTI and NOCTI scores, Keystone Exam results, average daily attendance, and number of discipline referrals. Administrators who disaggregate building data into classroom or program of study data provide their teachers and instructional coaches with invaluable information and a meaningful springboard for collaborative conversations.

Several of the Instructional Coaching PLC members report that data-driven instruction is a schoolwide focus, and they provide professional development sessions relating to data collection and use. Teachers learn how to find or collect relevant data and how to create spreadsheets to track data. Teachers are also encouraged to require students to

record and maintain their own data, such as assessments, program of study task completion, and the completion of projects and homework. Examples of the type of data collected and shared by instructional coaches are provided in Appendix F.

Section IV

How Do Coaches Learn to Coach?

Instructional coaches are experienced and highly skilled classroom teachers; however, coaching requires different skills than teaching. Administrators considering the implementation of a coaching program will benefit from having a plan in place for initial training and ongoing professional development opportunities for coaches. The art of coaching requires expertise in listening and observation skills, the ability to provide useful and appropriate feedback, and excellent presentation and facilitation skills. Coaches work with adult learners and benefit from knowing how their learning needs and styles differ from high school learners.

These skills are honed through experience but built on a foundation of high quality training such as that provided by PIIC. This organization, a partnership of the Annenberg Foundation and PDE, works closely with many Intermediate Units (IU) across the state. Each participating IU provides a coaching mentor to its area schools. Instructional coaches from these schools are invited to participate, at no cost, in PIIC statewide training events and regional coaching meetings at the IU. PIIC also offers resources online. Several participants in the Instructional Coaching PLC are actively involved in PIIC.

Instructional coaches in Pennsylvania may earn a program endorsement after successfully completing 12 graduate level credits and a minimum of 45 hours of embedded field experiences. One college that offers the program is Penn State Harrisburg; the endorsement is described on its website:

The Instructional Coaching Endorsement Program is a Pennsylvania Department of Education approved program. The Program Endorsement documents knowledge in new and emerging areas where formal certification does not exist. The program is intended to improve a teacher's skills in dealing with complex classroom settings. An endorsement program is added to a teacher's existing Level I or Level II Certification but is not required to perform service in this area. This program is recognized by the [Pennsylvania Department of Education \(PDE\)](#).

Four graduate level courses are needed to complete the program endorsement: Instructional Supervision, Educational Assessment, Curriculum and Instructional Design and The Teaching of Adults. Two members of the Instructional Coaching PLC are currently enrolled in the program endorsement and report that it is extremely beneficial to their professional growth.

The Instructional Coaching PLC members were asked to share professional development resources from which they have benefited; a more complete list is provided in Appendix C:

- **Statewide Networking Opportunities**
Schools often have only one instructional coach, which can lead to feelings of isolation and continual reinvention of the wheel. Coaches strongly emphasize that informal networking opportunities result in the sharing of resources, ideas, and recommendations. Coaches meet one another at conferences or through Pennsylvania's Technical Assistance Program (TAP) and keep in touch to support one another.
- **Conferences**
Learning opportunities designed specifically for instructional coaches are available across the country. Additionally, most state and regional education conferences include breakout sessions focusing on aspects of instructional coaching.
- **Association Membership Resources**
Membership in professional associations often includes access to free or low cost webinars and articles. For example, *JSD: The Learning Forward Journal* dedicated its entire February 2015 issue to instructional coaching.
- **Professional Reading**
Several instructional coaching experts have emerged over the last fifteen years and most have written books and articles addressing all aspects of coaching. Instructional coaching influencers include Jim Knight, Joellen Killion, Lucy Steiner and Julie Kowal.

Section V

Profiles of Coaching Success

Instructional coaching is designed to increase student engagement and achievement. Administrators may examine long-range student performance data to determine if student achievement increases when instructional coaching is implemented. Digging deeper, teachers may track an increase in student performance following an instructional change or enhancement that results from a coaching collaboration.

Coaches report less formal indicators of success, often through teacher comments or behavioral changes. Participants in the Instructional Coaching PLC were asked to share a few anecdotal coaching successes:

- Last year, a student in the carpentry program walked up to me and the teacher at the end of a lesson we co-taught. He thanked us! The student said the lesson was the first time he saw math as a real-life activity and never realized how much math was involved in carpentry before.
 - I can best sum up my coaching success by sharing a five-year progression with one particular teacher:
 - Year 1: The teacher continually said, “These kids can’t read. Not sure why I need to work with you.”
 - (Years 2 and 3, we focused on before, during, and after reading strategies.)
 - Year 2: The teacher continually said, “These kids can’t read, so I guess I have to work with you.”
 - Year 3: The teacher began to say, “Most of the kids are getting it.”
 - (Year 4, the technology coach taught the teacher how to use a clicker system.)
 - Year 4: The teacher began saying, “I know what the kids know right away and can adjust my teaching on-the-spot!”
 - Year 5: The teacher requested bi-weekly coaching sessions with the math coach, the technology coach, and me. That’s success!
-
- Many CTE teachers struggle with academic math. They know how to work through the math but they may not know how that same concept is explained or what it is called in an academic math class. In fact, some CTE teachers don’t recognize that their program of study includes math at all. As a math coach, I consider it a success when I co-teach a lesson using academic math terms and the teacher realizes that he already teaches that same concept but uses trade terminology. It’s like a light bulb goes off when he realizes he only needs to add the correct math terminology for his kids to make connections between their program math and the concepts they learn in math class. Without these co-teaching opportunities, I think a lot of CTE instructors lack confidence in teaching math so they stick with trade short cuts and trade

language. Coaching shows them how easily they can add rigor to their lessons.

- In working with new CTE teachers, breaking down the educational jargon is one of the first and most important steps. Until they know the language of teaching, they don't feel part of it. I realized this just last week when working with a new teacher. He didn't know exactly what a warm-up or exit ticket was (and apparently didn't feel comfortable asking his new colleagues something that he thought he should already know). Once I coached him through it, providing multiple examples and the purpose, it was exciting to see him start brainstorming ways in which he would implement these techniques.
- As a reading coach, I've been asked to facilitate a schoolwide reading program. Students can choose from articles, trade magazines and, of course, novels and other books. Initially only two or three teachers encouraged students to participate. Now, at least half of our teachers promote the program. Students especially like the quarterly Show Me the Book Day, when I walk around and reward anyone who shows me what they are reading. As a staff, we agree that it's more common than ever to see students reading when they have free time.

Section VI

Attributes of Outstanding Coaches

Throughout this report, the skills required of an outstanding instructional coach have been mentioned:

1. Ability to be powerful listeners and expert communicators.
2. Ability to balance compassion and patience with the ability to have honest and strategic conversations with peers.
3. Deep expertise in facilitation, reflection, and research-proven instructional practices.
4. Ability to maintain confidentiality.
5. Ability to always work toward their ultimate goal—increasing the effectiveness of teachers in order to increase student achievement and engagement.

Teachers who work with coaches are perhaps best able to identify the attributes of outstanding coaches. When asked, teachers who work with the Instructional Coaching PLC members shared the following:

- Coaches see the big picture. I'm in the classroom day in and day out and don't always reflect on my teaching methods. Coaches help me do that while at the same time allowing me to decide what I want to work on. Instructional coaching has provided me with differentiated support and helped me become a better educator.
- As a new CTE teacher, I felt like the proverbial fish out of water. What I really appreciate about working with a coach is that I don't have to feign confidence and pretend that I know what I'm doing, that I have everything under control, that I love my new coworkers, and that I have classroom management under control. A terrific instructional coach coaxes doubt and vulnerability out of the shadows and meets you where you are. She offers an open door, a non-judgmental ear, and resources to find solutions.
- Without the support of our technology coach, I wouldn't have embedded technology in my instruction. Now, I can't get enough. Technology tools really engage my students in learning.
- The instructional coach has helped me to implement new practices, not just give them a try once or twice. She nudges me to continue growing by offering constructive feedback in a non-threatening way. The coach takes complicated and overwhelming processes or practices and helps to break them down into actionable steps. She encourages me to break the "this is the way I've always done things" cycle and instead use reflection to determine when change is needed.

- Instructional coaching support is like having training wheels. She's there to offer real-time feedback and recommendations. She's a cheerleader. She's a listener. She provides me with a safe and confidential place to try riding on my own.
- Before instructional coaching, I did what I thought was the right thing to do. Sometimes it worked and sometimes it didn't, and in either case, I just kept going. Looking back, I probably thought it was working when it often wasn't. Now, with the collaboration of a coach, I have a much better idea of what my instruction looks like and how effective it is or isn't. Coaching has made my teaching much more thoughtful and reflective. I'm now excited to hone my teaching skills.
- Instructional coaches have made me think differently about my teaching. I take more ownership when my students are underperforming. I used to blame the students but now I question what I could do differently"
- The instructional coaches are completely invested in making me a better teacher. That makes me work harder!

Conclusion

Career and technical educators are charged with presenting rigorous technical and academic skills in an engaging and dynamic way that prepares all students for college and careers. This is a tall order. Demands on teachers are high, and student needs are extremely diverse. Busy with the day-to-day running of a classroom, many teachers are unable to reflect on their instructional effectiveness. Instructional coaching, a one-on-one professional learning model, offers teachers a unique and impactful opportunity to sharpen and hone instructional practices within their own classroom. While schoolwide professional development sessions are effective for presenting new initiatives and sharing other pertinent information, instructional practices presented during these sessions often do not make it into the classroom. Clearly, teachers need more intensive and personalized support to experiment with and adopt research-proven instructional practices.

Effective instructional coaches are highly trained and work closely with both teachers and administrators, aligning everything they do to the school's mission and goals. In turn, administrators ensure that instructional coaches are hired with much thought and, once in place, are not tasked with non-coaching assignments. When instructional coaches are able to do their work with fidelity, teacher effectiveness increases, building culture improves, and students are successful.

Administrators can support instructional coaching in several critical ways. First, they use great thought and consideration in hiring instructional coaches. They carefully develop and use a clear job description throughout the hiring process. Secondly, administrators ensure that teachers understand the role of the coach and the protocol for requesting a coach's support. Finally, and perhaps most importantly, administrators continually protect the coach's responsibilities and workload. An effective coach is available and accessible to teachers; when coaches are assigned responsibilities that are not related to teachers' professional learning, the effectiveness of this powerful professional development model quickly diminishes.

According to the 2014-2015 Instructional Coaching PLC participants, the opportunity to network, share, and learn together has been an overwhelmingly positive experience. As one participant stated, "In the past, I felt alone on an island. As a member of the Instructional Coaching PLC, I have ongoing access to knowledgeable and experienced coaches who understand the unique nature of career and technical education. Together we have explored pertinent issues, shared incredible resources, and become a true network."

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Appendix A

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Kathy Schick, NC3T

Appendix B

Instructional coaches work closely with teachers to develop and refine lesson plans ensuring that they align with academic and technical standards and include effective instructional practices and routines. Participants in the Instructional Coaching PLC submitted the following lessons as exemplars of such collaborative planning. Complete plans and related resources are available for download at <http://www.pacteresources.com>.

CIP CODE	LESSON TITLE	SUBMITTED BY
11.0801	WEB Biography Project	Joanne Custer and Erin Robell, Dauphin County Technical School
11.0801	Taking a Type 3 Collins Writing to a Type 4	Leah Vey and Denise Paulson, Berks Career and Technology Center
46.0101	Checking Labor Costs when Estimating Brick	Sharon Deiling and Jason Civitello, Dauphin County Technical School
46.0101	Lights, Camera, Set Design!	Lisa Hughes and Jeff Manly, Reading Muhlenberg Career and Technical Center
12.0508	Understanding Food Service Standards and Calculating Unit Costs	Robin Grimes and Kelly Sanders, Erie County Technical School
12.0508	Recipe Costing	Susan Kuschick and Mary Jo Kuhwalk, Berks Career and Technical Center
12.0508	Understanding How to Sharpen a Chef's Knife	Tammy Albanesius, Bob Lacivita, and Mark Tarlecki, North Montco Technical Career Center
43.9999	Tying a Bowline, Clove Hitch, Figure 8 and Yosemite Bowline	Tammy Albanesius, Bob Lacivita, and Jim Almo, North Montco Technical Career Center
52.1201	Weekly Pay	Barb Smith and Raymond Brendel, Steel Center for Career and Technical Education
Applies to all programs	Pre-NOCTI Data Analysis Lesson Plan (SLO)	Darcy Tyhonas and Mike Metikosh, Pittsburg Public Schoos

Appendix C

Following are recommended reading and resources offered by participants in the Instructional Coaching PLC; these resources are especially useful for new instructional coaches and for school leadership.

Barkley, Stephen G. and Terri Bianco. *Quality Teaching in a Culture of Coaching*. Lanham, MD: Rowman and Littlefield Education. 2010.

City, Elizabeth A., Richard F. Elmore, Sarah E. Fiarman, and Lee Teitel. *Instructional Rounds in Education: A Network Approach to Improving Teaching and Learning*. Cambridge: Harvard Education Press. 2009.

Hattie, John. *Visible Learning for Teachers*. New York: Routledge. 2012.

Kachur, Donald S., Judith A. Stout, and Claudia L. Edwards. *Engaging Teachers in Classroom Walkthroughs*. Alexandria: ASCD. 2013.

Killion, Joellen and Cindy Harrison. *Taking the Lead: New Roles for Teachers and School-based Coaches*. Alexandria: National Staff Development Council. 2006.

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Knight, J. *Instructional Coaching: A Partnership Approach to Improving Instruction*. Thousand Oaks, CA: Corwin Press. 2007.

Scott, Susan. *Fierce Conversations: Achieving Success at Work and in Life One Conversation at a Time*. Berkley: Penguin Group. 2004.

Teitel, Lee. *School-Based Instructional Rounds: Improving Teaching and Learning Across Classrooms*. Cambridge: Harvard Education Press. 2013.

Toll, Cathy A. *The Literature Coach's Survival Guide: Essential Questions and Practical Answers*. Newark, DE: International Reading Association. 2005.

Websites

Pennsylvania Institute for Instructional Coaches (PIIC)

<http://piic.pacoaching.org/index.php/resources/piic-videos>

Pennsylvania's Department of Education Standard Align System (SAS)

<http://www.pdesas.org>

Professional Journals

JSD

The Learning Forward Journal

<http://learningforward.org/publications>

Published bi-monthly

International Literacy Association (formerly International Reading Association) Journal of Adolescent and Adult Literacy

<http://www.reading.org>

Published six times annually

National Council of Teachers of Mathematics

Journal for Research in Mathematics Education

<http://www.nctm.org/publications/journal-for-research-in-mathematics-education/>

Published five times annually

Appendix D

Participants in the Instructional Coaching PLC and several administrators shared excerpts of their job description. Following is a culmination of the most common attributes and expectations.

Position Overview

The Instructional Coach plays a critical role in ensuring student success. We are currently creating a culture where Instructional Coaches:

1. Understand their impact on student achievement;
2. Understand the importance of their role in changing teacher practice;
3. Understand what defines excellence in their work;
4. Are provided with constructive and data-based feedback about their performance; and
5. Receive support to increase their effectiveness.

Essential Duties and Responsibilities

The following statements are intended to describe the general nature and scope of work being performed by this position. This is not a complete listing of all responsibilities, duties, and/or skills required. Other duties may be assigned.

1. Facilitates teachers' understanding and implementation of academic and technical standards and research-proven instructional practices.
2. Develops and maintains excellent relationships among peers in order to work closely with all teachers.
3. Supports teachers' achievement of goals by using coaching strategies that gradually release responsibility for implementing instructional practices to the teacher (for example, co-planning, modeling, co-teaching, side-by-side coaching, and observing).
4. Analyzes teacher practice through ongoing classroom visits, data analysis, examination of student work, and coaching conversations.
5. Provides clear and direct feedback to teachers based on analysis of practice.
6. Tracks student and teacher progress to assess the effectiveness of coaching.
7. Develops teachers' capacity to collect and analyze multiple sources of data to improve student learning.
8. Fosters collaboration and teacher leadership; contributes to a schoolwide culture of learning.
9. Participates actively on relevant school committees and teams.
10. Maintains strict confidentiality.
11. Stays current regarding instructional and coaching practices as well as state and

school district initiatives.

Qualifications

The successful candidate is motivated by the school's mission. This position offers the opportunity to have a profound and lasting impact on student learning and achievement. Candidates must possess the following qualifications:

1. Valid Level II Pennsylvania certificate.
2. Master's Degree with minimum of 5 years teaching experience.
3. Extensive knowledge of academic standards and a standards-based curriculum.
4. Experience in academic and CTE integration.
5. Strong organizational, interpersonal, and communication (verbal and written) skills.
6. Skilled in processing, manipulating and analyzing data.
7. Experience in designing and delivering professional development.
8. Knowledge of adult learning theory.
9. Experience in facilitating teams and supporting results oriented goals.

Personal Qualities of Top Candidates

1. **Commitment to Equity:** Passionate about closing the achievement gap and ensuring that every child, regardless of background or circumstance, receives an excellent education.
2. **Leadership:** Coaches, mentors, and challenges others to excel despite obstacles and challenging situations.
3. **Focus on Data-Driven Results:** Relentlessly pursues the improvement of school leadership, instruction, and operations and is driven by a desire to produce quantifiable student achievement gains.
4. **Innovative Problem-Solving:** Approaches work with a sense of possibility and sees challenges as opportunities for creative problem solving; takes initiative to explore issues and find potential innovative solutions.
5. **Adaptability:** Excels in constantly changing environments and adapts flexibly in shifting projects or priorities to meet the needs of a dynamic transformation effort. Comfortable with ambiguity and non-routine situations.
6. **Teamwork:** Increases the effectiveness of surrounding teams through collaboration, constant learning and supporting others; sensitive to diversity in all its forms; respects and is committed to learning from others.
7. **Dependability:** Does whatever it takes to consistently deliver with high quality under tight deadlines; successfully manages own projects through strong organization, detailed work plans, and balancing of multiple priorities.

8. **Communication Skills:** Communicates clearly and compellingly with diverse stakeholders in both oral and written forms; anticipates and responds to stakeholders' needs in a professional manner.

Appendix E

While some participants in the Instructional Coaching PLC are required to maintain and submit a weekly or monthly coaching log, others do so at their own discretion. Several coaches reported that attempts to maintain a log were unsuccessful due in large part to the unstructured and ever-changing nature of their day.

Following are several examples of coaching logs.

Example 1

	Monday	Tuesday	Wednesday	Thursday	Friday
AM					
PM					
Notes:					
<p>Abbreviation of Tasks:</p> <p>R Providing and managing resources</p> <p>AM Attending meetings</p> <p>PP Preparing/Giving Presentations</p> <p>STL Supporting teacher learning (working with teacher)</p> <p>CP Supporting teacher learning preparation</p> <p>BPK Building personal knowledge</p> <p>O Other</p>					

Example 2

Coaching Log: [insert week]			
Teacher	Goal	Coaching Strategy	Teacher Growth

Example 3

In this monthly spreadsheet log, the instructional coach adds the number of minutes spent on each task.

Professional Development		Monday	Tuesday	Wednesday	Thursday	Friday	Totals
Facilitating professional development sessions such as workshops, training, PLC's to increase/facilitate educator's knowledge	Week 1						0
	Week 2						0
	Week 3						0
	Week 4						0
	Week 5						0
Percent task total							0
Planning		Monday	Tuesday	Wednesday	Thursday	Friday	Totals
Planning, developing professional materials, preparing for school visitations	Week 1						0
	Week 2						0
	Week 3						0
	Week 4						0
	Week 5						0
Percent task total							0
Coaching Model		Monday	Tuesday	Wednesday	Thursday	Friday	Totals
Coaching (conferencing cycle, model teaching, viewing, planning for coaching, co-planning, etc.)	Week 1						0
	Week 2						0
	Week 3						0
	Week 4						0
	Week 5						0
Percent task total							0
Student Assessments & Data		Monday	Tuesday	Wednesday	Thursday	Friday	Totals
Assisting teachers in interpreting data, including tests and assessments, Fountas and Pinnell BAS & LLI	Week 1						0
	Week 2						0
	Week 3						0
	Week 4						0
	Week 5						0
Percent task total							0
Meetings		Monday	Tuesday	Wednesday	Thursday	Friday	Totals
Attending meetings (Coaches, Superintendants)	Week 1						0
	Week 2						0
	Week 3						0
	Week 4						0
	Week 5						0
Percent task total							0
Knowledge Building		Monday	Tuesday	Wednesday	Thursday	Friday	Totals
Remaining current in trends through personal study or professional development	Week 1						0
	Week 2						0
	Week 3						0
	Week 4						0
	Week 5						0
Percent task total							0

Appendix F

Instructional coaches facilitate conversations with teachers using highly relevant and personalized data to assist teachers in making informed instructional decisions. The data is not used in an evaluative way nor is it shared without permission from the teacher. Following is a list of data points participants in the Instructional Coaching PLC may collect through classroom visits:

Evidence of Student Engagement

1. Types and number of questions posed by teacher
2. Types and number of student responses
3. Number of students note-taking
4. Length of the lesson
5. Length of teacher lecture compared to length of hands-on work done by students
6. Number of weekly and monthly behavior referrals and absentees

Evidence of Classroom Routines

1. Routines that promote student independence
2. Routines for organization of resources and materials
3. Opening routines (e.g., please do now)
4. Summary routines (e.g., exit ticket)
5. Routines that ensure equity and fairness

Evidence of Formative Assessment

1. Teachers' verbal feedback
2. Students' access to their progress
3. Use of rubrics and checklists

Evidence of Academic Integration and Rigor

1. Literacy
2. Math
3. Science
4. Technical subject

Research-Proven Instructional Practices

1. Think-pair-share
2. Essential questions

3. Differentiated instruction
4. Summarizing and note-taking
5. Graphic organizers, non-linguistic representations and demonstrations
6. Ample guided practice time
7. Teacher feedback
8. Appropriate accommodations and modifications for special populations