

## Contribution of Practice

# BUILDING BRIDGES: STRENGTHENING NEW TEACHER INDUCTION THROUGH DIGITAL MEANS

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### Abstract

*The research on new teacher induction encourages educational preparation programs and school districts to create innovative, sustainable initiatives that support new teachers and increase teacher retention in the field. While traditional mentoring programs and ongoing professional development have always been provided for new teachers, programs are beginning to experiment with digital induction tools, including asynchronous (webinars) and synchronous (blogs, websites, social media, podcasts) as a means to support new teachers. This paper details the initial steps, current findings, and future goals to establish a sustainable digital induction program that expands upon an existing one-day professional development session offered by one university-based Educator Preparation Program (EPP). Suggestions for the creation and implementation of the blog site and recruitment of author participants will be shared in addition to content from posts, working challenges, and future goals.*

**Keywords:** digital induction, new teacher mentoring, mentoring

The recruitment and retention of high quality, diverse teachers, especially in shortage areas, continues to be a local, state, and national issue. The literature on teacher turnover and attrition is plentiful. Research on teacher attrition is alarming as it is reported that over 50% of beginning teachers leave the profession within the first five years (Carver & Feiman-Nemser, 2009; Ingersoll & Smith, 2004; Ingersoll, 2012). This statistic is not just a recent trend; Investigative studies from the last 30 years have confirmed that beginning teachers are indeed at risk for high levels of attrition (Ingersoll et al., 2018; Ingersoll & Smith, 2004).

Longitudinal comparisons that evaluate teacher retention statistics over the last 30 years confirm the teacher induction problem. In a recently released report by Ingersoll et al. (2018), it is estimated that 44% of new teachers leave the profession within the first five years. Of this number, half of the turnover occurs in roughly 25% of schools that are typically urban, high-poverty, and high-minority. And while there does appear to be a marked improvement in the number of minority teachers graduating from teacher preparation programs and being hired, these teachers are often among the first ones to leave the profession (Ingersoll et al., 2018).

Teacher education preparation programs around the country have engaged in the battle to curb high levels of teacher attrition among new teachers by restructuring and implementing innovative practices to better prepare and sustain novice teachers as they transition from the preservice environment (Potter et al., 2015). Critical teacher shortage areas currently include positions in the science, technology, and math (STEM) fields, special education, and bilingual education (Cowan et al., 2016). Furthermore, schools have difficulty filling middle and high school positions, especially in high-poverty and high minority schools (American Association of Colleges for Teacher Education [AACTE], 2013). Additionally, the student population continues to grow more ethnically and linguistically diverse, yet four out of five teachers are white (AACTE, 2013). In tandem, enrollment in Educator Preparation Programs (EPPs) across the nation have continued to decline by approximately ten percent, despite the projected need for more than one million new teachers over the next ten years (Barth et al., 2016). As a result of this data, both school districts and university EPPs are urged to create sustainable initiatives to recruit and retain teachers to meet the needs of a diverse student population.

Teachers frequently cite elevated responsibility compounded by a lack of control as contributing reasons for leaving the profession (Allen, 2005). New teachers are notably more likely to leave the profession due to a lack of investment in their early development (Curran & Goldrick, 2002). Furthermore, current research in teacher education indicates that the more support a new teacher receives in the first year of teaching, the less likely the new teacher is to leave the profession within the first five years (New Teacher Center [NTC], 2016). Comprehensive, purposeful, and multi-year support programs can accelerate the professional growth of novice teachers, can increase teacher retention, and can improve student learning (NTC, 2016). University-based induction programs and support are of benefit to beginning educators. Desimone et al., (2014) and Bastian & Marks (2017) assert that university-based induction programs are able to support recent graduates as they know the strengths and challenges of their candidates and can further scaffold mentoring supports that are targeted to the individual.

Additionally, recent graduates feel more comfortable asking former professors for guidance as they are no longer in a position of authority, unlike asking their school administration in fear of looking “incompetent” to a person who oversees their performance. Glazerman et al. (2010) found that students taught by new teachers who received at least two years of purposeful induction support demonstrated more significant learning gains in reading and math than in classrooms where new teachers who did not receive such support. A 2016 policy guideline report by the NTC summarized that there are four main components of an effective, purposeful, and comprehensive induction system, including quality mentor partnerships, effective school administrators, multiple support structures in place for new teachers, and ongoing program evaluation.

### **New Teacher Academy: The Face-to-Face Experience**

In a continued effort to support newly graduated teachers from one university-based EPP, a New Teacher Academy (NTA) was formed in 2014. Since its inception, the NTA has grown and now includes partnering with a local alternative certification program to provide high-quality professional learning during the transition period of graduation/program completion to the first year of teaching. The NTA is a one-day face-to-face (F2F) targeted professional development session (approximately 6 hours) with small and large group sessions focused on topics to enhance beginning teachers’ knowledge and skillset regarding how to best meet the needs of diverse learners in their classroom (classroom management, differentiated instruction, working with special populations, technology

integration to enhance learning). Sessions are facilitated by current K-12 teachers, administrators, and learning coaches from an array of districts. The structured day allows for a variety of interactive and hands-on sessions.

Approximately 100 participants attended the most recent (2019) NTA offering at the university. The F2F component of the NTA allowed participants to learn new strategies to implement in their first year of teaching. For example, one session topic focused on effective classroom organization and management strategies. The facilitator of the session spoke of how to set up and arrange the “check-in” station for Meet the Teacher night. A participant commented, *“I never thought about how to set up for Meet the Teacher night. I mean, I knew about it, but I never thought about how I could best set it up so it was organized.”* Another session focused on using technology to better meet the needs of students receiving Section 504 or Special Education services. This session was facilitated by a current Educational Diagnostician and a district learning technology coach, and it showed various applications on how teachers could meet student accommodations and modifications. A participant noted, *“The IEP breakout session was great. I learned how Screencastify can be used for oral administration accommodations.”*

The feedback on the overall learning experience and value participants received from attending the NTA was positive. Every participant identified that *“NTA was worth the time”* and suggested (strongly agree or agree) that the information gleaned from the experience was *“very worthwhile and applicable.”* On the survey, participants did note that they *“wished it was two days instead of one (day), and more choices for break-out session topics were included.”* However, because of the nature of new teachers and their lack of experience in the classroom, NTA administrators often receive continued requests for information on classroom topics and support that a one-day session simply cannot provide.

Moreover, 64% of participants indicated that they would be interested in participating in a year-long mentoring experience. This was a compelling finding from the event that suggests additional forms of mentoring and professional learning are needed for beginning teachers. While the NTA served as a “mentoring mechanism” to support recent graduates and completers (F2F) before stepping foot into their first teaching job, additional supports and ongoing professional practices are necessary to support beginning teachers. Additionally, the EPP created other means, including a digital induction platform, to provide more targeted support for first-year teachers. Time for a first-year teacher is limited; thus, the EPP

worked to incorporate digital platforms to support beginning teachers as much as possible.

### **Digital Induction: Maximizing Opportunities for Growth**

Anyone living in the realm of technology and the teaching profession has most likely heard of teaching blogs and sites such as Cult of Pedagogy, Edutopia, or TeachThought. The rapid expansion of technology via social media has created a niche for professional educators. Articles, blogs, teaching videos, and other professional-oriented topics are widely shared and accessed by a digital community of teachers. Whereas once professional development required a physical presence at a sit-and-get session or a book checked out from the campus professional library, technology has suddenly increased the ability for teachers to asynchronously reflect upon their practice while reading a blog post or teaching article in the dentist's office. This extends to the world of lesson planning and lesson planning ideas via digital collection boards such as Pinterest.

Furthermore, the COVID-19 pandemic announcement on March 11, 2020 (World Health Organization, 2020) created an almost instantaneously reliance on digital forms of instruction and professional development. Following this announcement, countries, states, businesses, and schools shut down immediately in an effort to slow the pace of virus transmission. Teachers, suddenly dependent on digital means of instruction and online platforms to reach their students, had to adapt to a new way of teaching and learning overnight with no face-to-face forms of professional development available. A plethora of professional development articles and resources about tools to use, strategies for teaching online, and emotional support emerged almost immediately. Consider these headlines explicitly geared towards teachers in the wake of new online teaching methods:

*Teaching Through a Pandemic: A Mindset for This Moment* (Merrill, 2020).

*The Difference Between Emergency Remote Teaching and Online Learning* (Hodges et al., 2020).

*4 Tips for Teachers Shifting to Teach Online* (Farah, March 2020).

*How Effective Is Online Learning? What the Research Does and Doesn't Tell Us* (Loeb, 2020).

*Everything You Need to Know About Building a Great Screencast Video* (Farah, April 2020).

*Distance Learning: A Gently Curated Collection of Resources for Teachers* (Gonzalez, 2020).

What does this mean for new teacher induction? Obvious implications are that digital forms of support via written blogs, recorded webinars, articles, and compilations of resources can be necessary and effective tools to reach new teachers where they are. Furthermore, these types of resources are easily accessible to facilitate the growth process in a limited timeframe or as a way to accommodate an immediate need when resources are limited. This would be especially relevant for new teachers working in districts in which no formal mentoring or induction program exists.

Existing studies in new teacher digital induction programs focus on the use of digital means as a source of creating an online community and reflective practice. New teachers in these studies frequently report positive benefits in the program, such as the influence upon instructional practice, ability to provide support, and facilitation of reflection through wikis, discussion boards, and coaching support (Kileavy & Moloney, 2010; Taranto, 2011). However, a common critique of such programs is that reflective journaling and posting requirements often enhance rather than relieve concerns and time constraints of the new teacher (Hutchinson & Colwell, 2012; Mitchell et al., 2017). Research conducted by Zuidema (2012) found that through digital email exchanges, teachers adopted an inquiry stance while building a digital community. In their review of the research on mentoring of beginning teachers, Ingersoll & Strong (2011) suggested that mentoring and induction programs for beginning teachers positively impact teacher retention and student achievement; these can and should include digital forms of community.

A natural extension of the digital community is the rapid expansion of social media applications. Social media provides a platform to disseminate professional information that it is readily accessible from a computer or personal device. Additionally, school districts are supporting teachers' use of social media to showcase instructional quality and professional development collaborations. Many teachers can use instructional breaks or personal time to locate and access information through social media posts. Studies on the use of social media within professional development formats indicate that teachers view and use social media as tools to build a network of mentoring support, impact knowledge, and affect their current teaching practice (Risser, 2013; Trust, 2012).

A digital induction site expands on established perspectives in teacher induction while also focusing on an underused component of induction, that of using real-time or synchronous tools (webinars or virtual conferencing) and

asynchronous offerings such as blogging, video media, and social media to foster digital community as an induction process. This entirely digital format helps to bridge the gaps of time, distance, and communication among graduates who are unable to regularly utilize the support services that our university can provide.

The purpose of creating the NTA digital induction site is to establish multiple support structures and partner with local school districts to support new teachers transitioning from preservice to service. Texas is currently a state in which no formal induction support policies are mandated (Texas Education Agency, n.d.; New Teacher Center Report, 2016). The goal of the project is to facilitate natural connections and support as an extension of the EPP university partnership rather than to create added tasks and requirements for new teachers (i.e., the bridge). Thus, the program implemented intentional design by disseminating information through written blogs and social media as a method to provide professional development extensions of the one-day NTA event and to create authentic professional conversations about teaching practice, specifically geared for the new teacher. This site serves as a digital induction community in which participants can learn, receive mentoring support and advice from veteran educators, exchange knowledge, ask questions, and contribute once more established in their teaching careers. Specific goals of the project include:

1. Creating a digital means to support new teachers in their first one to three years of teaching as an extension of the one-day New Teacher Academy by providing blogs, podcasts, and webinars on topics of particular interest to *new* teachers. The intent is to establish an active partnership between the EPP and our surrounding school districts. Writers and contributors to the site comprise of members among the university faculty, surrounding school district administrators and leaders, and university alumni actively working in the field.
2. Providing continuing support for current preservice teacher education students by connecting active educational practitioners to educational leaders and alumni working in the field.
3. Serving as a recruitment tool for teachers to return to the university as they seek to advance their own professional development needs. Many graduates return to the university after entering the teaching profession to pursue graduate degrees in Educational Leadership, Special Education, or Curriculum and Instruction. The site provides all pertinent information about the various programs offered at the university.

Current graduate students are also among the contributors who write for the blog, which serves to help develop their professional trajectory as many experience a pseudo peer-reviewed publishing forum.

## The Process

### *Year 1- Early Implementation: Creation, Design and Recruitment*

The development of this project occurred in several early implementation stages. NTA administrators identified a need for continued support following the one-day NTA event. Because one of the goals of the project was to serve as a collaborative effort and not merely the voice of a few individuals, recruitment of writers and contributors was necessary. A blogging guideline document was crafted to provide several concrete tips on how to write an effective blog piece. For instance, the guideline sheet discussed how to write specifically for new practitioners in the field rather than for an academic research-based journal audience. We recruited writers for the blog by sending out a call for contributors and blog posts among the various networks, by sharing the need at university faculty meetings, and by emailing university alumni and district partners. The NTA site was then constructed using WordPress as a free web hosting platform: Tabbed categories include the various components of the website. Specifically, the following pages were created:

- About Section – This section details the New Teacher Academy, founders, and purpose of the New Teacher Academy Site.
- Contributors – This tab hosts photographs and biographies for all contributors and writers. The blog recruitment document is also housed in this section as we continue to recruit writers and contributors.
- Graduate Degrees – Information about all university graduate degrees is posted on this page, including direct links to the official university page.
- Job Postings – The NTA and teacher education program frequently receive job postings of available opportunities in surrounding school districts. All job postings that we receive are posted here.
- Resources – This page hosts relevant links and resources that are available to our graduates and anyone accessing the website.
- Webinars – Links to webinars, including archived recordings, are housed in this section.



- The blog section of the website is the home or static front page for anyone accessing the site, and all content is archived by date and tags.

Before crafting and releasing blog posts, an informal survey was distributed to university alumni and NTA participants to discover topics of interest to new teachers. This information was used to compile a tentative list of subjects that was both relevant and timely to their practice in the classroom. For instance, some respondents marked that they would like more information on how to conduct a parent-teacher conference. Knowing that this is typically an important hallmark in the early part of a school year, writers crafted a blog submission for release in the early part of the year rather than at the end.

The digital induction site officially launched at the introduction of the 2017-2018 academic year with an introductory post explaining the purpose and features of the site. Topics that were covered this year included the first days of school, technology in the classroom facilitating parent-teacher conferences, classroom management, assessment, and professional goals. Writers and contributors included voices from both district partnerships and university faculty, including a faculty member who had recently gone back to the K-12 classroom on sabbatical leave through the university. A total of 13 original posts were disseminated during this first year of the project.

### ***Year 2- Gaining an Audience and Incorporating Social Media***

While the launch of the site was initially successful in that it pushed out consistent content, the hosts quickly realized that while WordPress tracked views, there was no way of knowing who was actually accessing the site. Furthermore, the site did not attract a wide following by simply releasing posts. Using existing contacts from the NTA event and social media forums, emails were sent out to try and attract consistent followers. Blog posts were also posted on social media sites such as the university department and college Facebook and Twitter accounts. The site is also available to the university's current preservice teacher education and student teaching interns. A specific Twitter account was created to reach this particular population of teaching graduates who were now in the field.

Based upon initial statistics, the site went from approximately 20 views per post to a more consistent following of about 50-70 viewers per post. The site is open, so at this time, there is no way of knowing who reads it. However, it is assumed that current preservice teachers, educational faculty, and NTA alumni are primarily responsible for viewing the content. A comments section is

open for viewers to post responses to questions or their ideas, but this feature has not been consistently used. Comments we did receive posted on the site include:

- *Thank you for creating such a blog, I still don't have a teaching job, but I'm sure all the resources posted will help me prepare when I get my turn. I hope new teachers share; it is really helpful.*
- *I really enjoyed [name's] piece on the cultural classroom. It definitely gives teachers a new perspective regarding how to reach and teach our students. Great piece!*

### ***Year 3- Sustainability and Students as Partners***

The third year became more about the sustainability of the project. It takes extensive time to solicit, edit, and publish posts for the blog that have been both vetted in content and revised for quality. Furthermore, multimodal elements of a blog require finding royalty-free stock images to use in the posts. Finding relevant images to match the content in the blogs can be time-intensive for a faculty member also charged with teaching, curriculum design, scholarship, and service duties. Other more administrative type tasks such as having to update listservs based on the most recent NTA attendance, updating old and broken links, and getting fresh content on the site also took extensive time.

One solution was to have students in the university's EPP graduate programs serve as writers for the blog (most of which are current K-12 educators). This was a significant move and served to help bridge the preservice to inservice gap by featuring the perspectives of students who were many years into their teaching careers and thus, often had the most authentic voices. It also helped to solve the problem of continually recruiting fresh writers and topics to release on the blog without creating the undue hardship of the blog administrators continuously writing blog contributions.

In one of the graduate courses for a degree in Teaching, Learning, and Curriculum, students were charged with writing two blog posts as a course assignment that infused elements from a curriculum studies and perspectives class. Specifically, the blogs had to be geared toward the audience of new teachers but had to incorporate themes discussed in the class. Some of these themes included various teaching philosophies, care mentality, lesson planning design and approach, curriculum elements such as the implicit, null, and hidden curriculum, teaching critical thinking and problem solving, and multicultural education. Students were told upfront that exceptional works would potentially be edited and chosen for

publication on the blog site. Students were also given the blog to see a model of how to write theoretical concepts toward a different audience. In other words, they had to understand what they were writing about so well, to make it understandable and applicable to a new teacher, which requires a different writing skill than composing a research paper. Eventually, this opportunity was opened up to other students in other graduate programs at the university. Thus far, eight graduate students have had their works featured on the site.

### **The Findings: Thematic Elements for New Teachers**

Contributors to the digital blog were not given specific topics to on which to write. Faculty members, district leaders, and graduate students wrote on topics of interest and expertise to their particular educational experiences. However, all contributors were given guidance about the purpose, audience, and guidelines of the blog. For instance, writers were told that the target audience would be new teachers in their first three years of teaching practice.

The majority of posts had to relate to topics that are of paramount for beginning teachers. Classroom management and classroom engagement were written about from multiple teachers and faculty members. Moreover, the integration of technology to support all students and enhance their learning was also touched on several times. Goal setting, handling the pressures of teaching, and understanding and meeting student needs were also addressed. Based on feedback and comments related to the topics, it was apparent that readers appreciated authentic, evidenced-based pieces with tips and ideas that could be implemented in the classroom almost immediately. New teachers didn't want to read through extensive reviews of literature; instead, they wanted to learn about the topic, how to best incorporate it in the classroom, and how it could enhance their students' learning experience.

### **Lessons Learned: Challenges as Future Goals**

Previous work in the field of new teacher induction (Semington et al., 2016) reports on the difficulties in maintaining and recruiting consistent participation in synchronous, real-time professional development sessions such as webinars. Challenges initially arose when planning this type of induction offering since teachers were limited by time and preference to other face-to-face or digital offerings. Thus, the NTA decided to begin the digital induction program and NTA site by offering asynchronous options in the form of written articles (blog posts) or podcasts that can be accessed more flexibly, do not require

an extensive amount of time, and are easily accessible on mobile devices and social media accounts.

A future goal is to begin hosting more synchronous forms of professional development, such as through webinars and live virtual conference sessions (i.e., Zoom, Skype, Google Meet, etc.). In Semington et al. (2016), webinars began as regular options during the year, with 3-4 offerings per semester. Attendance at the webinars was consistently reported much lower than content offering in the asynchronous formats, although many individuals accessed the content in recorded form later. However, due to the current reliance on digital forms of professional development via webinars and virtual conferencing in a post COVID-19 schooling era, a foreseeable need and interest in this type of development is expected. The EPP experimented with these types of professional development offerings in the spring 2020 semester when all face-to-face interactions with current preservice teachers were no longer feasible. Clinical student teaching seminars moved quickly to a fully online, synchronous format via Zoom and Google Meet, and students adapted and participated in the sessions. Over 100 students participated live and used both the chat and discussion features to interact with hosts. This option could easily be expanded to include the education community of recent graduates and new teachers as part of a purposeful induction support tool. Furthermore, the recording abilities of these tools make accessibility much easier for teachers with multiple responsibilities and time constraints.

One future goal of the project is to develop and implement a method for studying the impact of the blog and social media usage upon teaching practice. Specifically, when and how do teachers access the information? Do they share the site with other colleagues? How do they implement the content in their teaching practice? Do teachers feel supported and more confident in their teaching practice after viewing the content? Questions such as these get to the heart and purpose of implementing such a project – positively influencing teaching practice and providing ongoing support, especially in a time when face-to-face interactions and professional development is not feasible and is highly dependent upon technology.

Expanding upon digital teacher development and induction through digital means should always be a primary goal. While blogs are certainly meaningful tools to access information and can always be archived and readily accessed, the NTA developers would like to continue exploring the use of synchronous tools such as virtual conferencing and webinars and asynchronous media tools such as podcasts and short instructional videos. This

suggests a more extensive commitment in the form of digital and media editing capabilities, which means that recruiting and implementing this form of digital induction will no doubt require more time and preparation.

### Conclusion

This best-practices, work-in-progress paper, provides a foundational understanding of the complexities of new teacher induction, specifically regarding digital induction programs as innovative ways to support new teachers. The authors foresee that this form of induction support for new teachers will become especially relevant and at the forefront of teacher support methods in the current cultural climate reliant on technology while social distancing in the wake of the COVID-19 pandemic. This paper discusses the specific implementation phases of the digital induction and reviewed both the early and current planning stages and behind-the-scenes work to recruit contributors, attract followers, and introduce quality, relevant content. A main challenge of getting the project up-and-running includes attracting and retaining followers, while also measuring the impact upon new teacher practice. This is no easy task. We may consider taking another approach and looking at how the writing elements of veteran graduate teachers aids in developing their practice over time.

We consider the project successful if our participants find the content meaningful toward positively impacting classroom practice if they return to the site or share the site with other teachers who could potentially benefit, and if the site helps to recruit students to further their education through additional professional development opportunities,

including returning to the institution for advanced degrees. It seems evident that F2F induction support, coupled with digital means, can be very impactful to beginning educators. Findings from initial implementation suggest that digital teacher induction is ongoing and continually changes to meet the needs of the various participants in the program. Some of the challenges and future goals of the project include the creation and delivery of professional development webinars and implementing strategies to build and maintain strategic partnerships for completing blog postings. Finally, we desire that our project continue to facilitate the ongoing discussion of how to best meet the needs of supporting novice teachers in the field via both F2F and digital formats. We ask fellow teacher educators to ponder these questions:

- What are the needs of your program and new teacher graduates, and what specific topics and themes would be of utmost importance?
- How can EPPs design and evaluate digital induction programs to ensure that they are actually helping our new teachers? What research strategies should be implemented?
- How can EPPs evaluate the lasting impact of a digital induction program upon teacher retention and development of practice in the classroom?
- How can digital induction programs best support new teachers in the era of the COVID-19 pandemic when new teachers are still learning to teach when teaching is now fully online?.

## References

- American Association of Colleges for Teacher Education. (2013). The changing teacher preparation profession. Retrieved from <https://aacte.org/news-room/13-press-releases-statements/145-aacte-releases-first-national-data-report-on-teacher-preparation-profession>.
- Allen, M. B. (2005). Eight questions on teacher recruitment and retention: What does the research say? Education Commission of the States Policy Report (NJ3). Retrieved online May 20, 2019 from <https://files.eric.ed.gov/fulltext/ED489332.pdf>.
- Barth, P., Dillion, N., Hull, J., & Holland-Higgins, B. (2016). Fixing the holes in the teacher pipeline: An overview of teacher shortages. Center for Public Education. Retrieved from <http://www.centerforpubliceducation.org/Main-Menu/Staffingstudents/An-Overview-of-Teacher-Shortages-At-a-Glance/Overview-of-Teacher-Shortages-Full-Report-PDF.pdf>
- Bastian, K. C., & Marks, J. T. (2017). Connecting teacher preparation to teacher induction: outcomes for beginning teachers in a university-based support program in low-performing schools. *American Educational Research Journal*, 54(2), 360-394.
- Curran, B., & Goldrick, L. (2002). Mentoring and supporting new teachers. Issues Brief. Retrieved online May 20, 2019 from <https://eric.ed.gov/?id=ED467748>.
- Carver, C. L., & Feiman-Nemser, S. (2009). Using policy to improve teacher induction: Critical elements and missing pieces. *Educational Policy* 23, 295-327. doi:10.1177/0895904807310036.
- Cowan, J., Goldhaber, D., Hayes, K., & Theobald, R. (2016). Missing elements in the discussion of teacher shortages. *Educational Researcher*, 45 (8), 460-62.
- Desimone, L. M., Hochberg, E. D., Porter, A. C., Polikoff, M. S., Schwartz, R., & Johnson, L. J. (2014). Formal and informal mentoring: Complimentary, compensatory, or consistent? *Journal of Teacher Education*, 65(2), 88-110.
- Farah, K. (March 20, 2020). 4 tips for teachers shifting to teach online. Retrieved from <https://www.edutopia.org/article/4-tips-supporting-learning-home>.
- Farah, K. (April 26, 2020). Everything you need to know about building a great screencast video. Retrieved from <https://www.cultofpedagogy.com/screencast-videos/>.
- Glazerman, S., Isenberg, E., Dolfen, S., Bleeker, M., Johnson, A., Grider, M., & Jacobus, M. (2010). Impacts of comprehensive teacher induction: Final results from a randomized controlled study. NCEE 2010-4027. *National Center for Education Evaluation and Regional Assistance*.
- Gonzalez, J. (March 30, 2020). Distance learning: A gently curated collection of resources for teachers. Retrieved from <https://www.cultofpedagogy.com/distance-learning/>.
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (March 27, 2020). The difference between emergency remote teaching and online learning. Retrieved from <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>.
- Hutchison, A., & Colwell, J. (2012). Using a wiki to facilitate an online professional learning community for induction and mentoring teachers. *Education and Information Technologies*, 17(3), 273-289.
- Ingersoll, R. M. (2012). Beginning teacher induction: What the data tell us. *Phi Delta Kappan*, 93(8), 47- 51.
- Ingersoll, R. M. & Smith, T. M. (2004). Do teacher induction and mentoring matter? *NASSP Bulletin*, 88(638), 28-40.
- Ingersoll, R., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Educational Research*, 81(2), 201-233.
- Ingersoll, R., Merrill, E., Stuckey, D., & Collins, G. (2018). Seven trends: The transformation of the teaching force. Consortium for Policy Research in Education. Retrieved online May 20, 2019 from [https://repository.upenn.edu/cpre\\_researchreports/108/](https://repository.upenn.edu/cpre_researchreports/108/).
- Killeavy, M., & Moloney, A. (2010). Reflection in a social space: Can blogging support reflective practice for beginning teachers? *Teaching and Teacher Education*, 26(4), 1070-1076.
- Loeb, S. (March 20, 2020). How effective is online learning? What the research does and doesn't tell us. Retrieved online <https://www.edweek.org/ew/articles/2020/03/23/how-effective-is-online-learning-what-the.html>.
- Merrill, S. (March 19, 2020). Teaching through a pandemic: A mindset for this moment. Retrieved from <https://www.edutopia.org/article/teaching-through-pandemic-mindset-moment>.
- Mitchell, D. E., Howard, B., Meetze-Hall, M., Hendrick, L. S., & Sandlin, R. (2017). The new teacher induction experience: tension between curricular and programmatic demands and the need for immediate help. *Teacher Education Quarterly*, 44(2), 79.
- New Teacher Center (2016). Support from the start: A 50-state review of policies on new educator induction and mentoring. Retrieved online May 20, 2019 from <https://newteachercenter.org/wp-content/uploads/2016CompleteReportStatePolicies.pdf>.
- Potter, J., Hollas, T., & Coyne, J. (2015). Preparing the future: An examination of teacher quality in today's teacher preparation programs. *Education: Issues and Answers*. 143-167.
- Risser, H. S. (2013). Virtual induction: A novice teacher's use of Twitter to form an informal mentoring network. *Teaching and Teacher Education*, 35, 25-33.



- Semingson, P., Collins, D., Hungerford-Kresser, H., Hurlbut, A., Myers, J., Owens, D. & Robertson, M. (2016). Digital teacher induction via webinars and social media. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2016* (pp. 371-376). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).
- Taranto, G. (2011). New-teacher induction 2.0. *Journal of digital learning in teacher education*, 28(1), 4-15.
- Trust, T. (2012). Professional learning networks designed for teacher learning. *Journal of Digital Learning in Teacher Education*, 28(4), 133-138.
- World Health Organization (March 11, 2020). Retrieved from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>.
- Zuidema, L. A. (2012). Making space for informal inquiry: Inquiry as stance in an online induction network. *Journal of Teacher Education*, 63(2), 132–146.