**Mechanics of Coaching**

*The past, present, and future of coaching in Washington Quality Rating Improvement System (QRIS) - Early Achievers: System actors’ perspectives and thoughts for next steps*

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**Abstract**

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*The past, present, and future of coaching in Washington Quality Rating Improvement System (QRIS) - Early Achievers: System actors’ perspectives and thoughts for next steps*

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Chair of the Supervisory Committee:

Dr. Gail E. Joseph

In this study, a sequential exploratory design was applied to inquire about the ontological aspects of coaching and its role in the state of Washington early learning Quality Rating Improvement System (QRIS) - Early Achievers. Researchers in the past have demonstrated positive child level outcomes of instructional coaching and professional development for teachers on certain academic domains yet the link between coaching and QRIS systematic outcomes are still unclear. There is a need to operationalize the definition of coaching and its role in the QRIS system.

By conducting a descriptive analysis using a set of secondary data captured from the state Web-based Early Learning System (WELS) of 2757 site records on coaching objectives followed by general inductive analysis of six interviews of Early Achievers implementation partners, several perspectives on how Early Achievers could reflect measuring success driven by coaching activities are presented in this paper.

The following research questions will be addressed in this study:

* RQ1: What is the holistic overview of the coaching workforce status in the Washington State Early Learning system including the number of coaches, caseloads, and the characteristics of coach demographics - its attrition rate and completion rate of the Early Achievers coach framework training?
* RQ2: What are the characteristics of coaching activities reported on the statewide Web-based Early Learning System?
* RQ3: How can system actors and stakeholders reflect and utilize the currently available information to inform what coaching objectives/approaches are considered effective for WA QRIS?
* RQ4: How can QRIS implementation partners work together to improve the current system supporting coaches and evidence-based coaching practices?

Findings suggest preferred types of coaching activities have shifted from in-person coaching to remote coaching since 2019; perspectives from system actors reflected hopes for the revision of Early Achievers, and more than ever, there is a need to build trust and sense of belonging among all stakeholders including families, practitioners, and implementation network partners that multiple coaching approaches are valued in the system.

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**Dedication**

To Hitomi Kariya

for providing unconditional love and support as my life partner and providing extraordinary support during current COVID-19 pandemic as a leading epidemiologist in Washington

To Ei-Hyung Hwangbo, Geun-Yeol Lee, and Ji-Young Park

for also providing unconditional love and support throughout my life

To Eun Hee (Silver) Denton, Mike Denton, and B.B. Denton

for accepting me as a family in Seattle

&

To Young-Hee Lee

for being my mom

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# Preface

I decided to write my dissertation around coaching and early learning Quality Rating Improvement System (QRIS) not because I am familiar with this topic, but to understand how and why coaching works from a certain program or a system via conducting a sequential explanatory approach. Researchers have demonstrated the positive impacts of evidence-based coaching in the early learning system in multiple ways. Yet, the sources of evidence lacked how early learning system researchers attuned to the needs of those who are early learning coaches and coachees. It seemed unclear to me how and why those system implementation actors bought into the ideas of an evidence-based coaching process especially in the context of QRIS which is considered different than traditional school-based childcare programs. There are many ways to numerically describe what is happening. Instead, I really wanted to listen to the needs of the system actors who are a part of Early Achievers - those who support and provide leadership support to the Early Achievers coaches. My approach may not be considered innovative nor projecting future outcomes in a systematic way, though I believe showing empathy to acknowledge and critique what has been working well and what can be improved in the current system deemed much rewarding as a scholar.

# Motivation

Researchers in the early learning system have continuously shown high quality early learning environments are associated with measurable gains in child level developmental outcomes (Karoly, 2014; Lahti et al., 2015; Soderberg et al., 2016; Zelman & Fiene, 2012). It also became a crucial era in the state of Washington to address equitable access to high quality care for children under five years old. Early Start Act (Washington State Department of Children, Youth, and Families, 2019) regulations will be fully in place effective by the end of 2020-2021 school year; stakeholders are working towards providing high quality access to 90% of all children eligible for pre-K participation in Washington.

The purpose of the proposed study is to examine factors associated with changes in Washington state Quality Rating and Improvement System (QRIS) for projecting what can be improved with the current existing model of QRIS. As a member of society, I believe researchers have social responsibilities to inform actors in the system including teachers, coaches, directors, administrators, policymakers, researchers, and families for proactive data-driven decision making for sustaining and improving the statewide QRIS – Early Achievers – during this era of uncertainty magnified by COVID-19 relevant crisis.

In the past decade, actors in the state of Washington have prioritized its effort to understand and build consensus around a uniform QRIS service model. Researchers in the state initiated collaborative research-practice-policy partnerships to construct and implement a feasible childcare quality assessment model with community partners (Joseph et al., 2010). Since then, researchers have attempted to inquire and explore different aspects of the Washington early learning system including the relationship between measures of childcare quality and children’s developmental gain (Soderberg, 2014), factors associated with supporting teachers on working with English-Language Learners (Cummings, 2015), validation of a program quality assessment tool (Zeng, 2017) and kindergarten literacy assessment tool (Stull, 2015), reflection of pre-service teachers’ mathematics practices (Boyd, 2016), and features of early learning coaches communities of practice (Keller, 2017).

The pursuit of building high quality childcare systems had to be revisited due to the scalability and feasibility of the system. Prior to the COVID-19 pandemic, Washington Office of Financial Management recommended the state legislature and Washington State Department of Children, Youth, and Families (DCYF) - the governing cabinet of QRIS - to revisit the current QRIS to be more agile and cost efficient; hence, DCYF (2020) announced it will suspend the use of two standardized assessment tools: the Environment Rating Scale-Revised Edition (ERS-R) (Harms et al., 1998) and the Classroom Assessment Scoring System (CLASS) (Pianta et al., 2008). Instead, the agency (DCYF, 202) recommended the use of one assessment tool, Environment Rating Scale-Third Edition tool (ERS-3) beginning July 2020. The current circumstance seems unforeseeable and obscure however, it also creates a window of opportunity (Kingdon, 1986) for actors of the state QRIS to create a moment of reflection around 1) What components and aspects of QRIS worked well?; 2) What factors can be changed?; and, 3) How can we co-create the next era of QRIS that is considered high quality and sustainable?

One aspect of the early childhood system that researchers can consider is to explore feasibility of one of the implementation activities: coaching-based professional development. Often coaching and similar forms of professional development (Artman-Meeker et al., 2015; Kraft et al., 2018; Landry et al., 2006; Whittaker et al., 2016) to support teachers to improve teaching practices are hypothesized to bolster young children’s school readiness through continuous quality improvements in the system. As resources, time, and scope the future QRIS system in the state seems obscure, research on three dimensions of coaching can be a crucial aspect to project what would be the best way to sustain the next version of our QRIS.

# Literature Review

This section will address an overview of the Quality Rating Improvement System (QRIS) in the literature, overview of Continuous Quality Improvement (CQI), and how it is linked to coaching in the context of the early childhood system.

## Overview of the System: Quality Rating Improvement System (QRIS)

In November 2009, the Obama Administration announced the enactment of American Recovery and Reinvestment Act (ARRA) of 2009 (U.S. Dept. of Education, 2009) which led to the launch of Race to the Top (RTT) competition. The RTT challenge encouraged transformative change within schools, targeted toward leveraging, enhancing, and improving classroom practices and resources (U.S. Dept of Education, 2009). Three out of five priorities in the summary report addressed items relevant to early learning communities:

*“Priority 3: Invitational Priority – Innovations for Improving Early Learning Outcomes. The Secretary is particularly interested in applications that include practices, strategies, or programs to improve educational outcomes for high-need students who are young children (pre-kindergarten through third grade) by enhancing the quality of preschool programs. Of particular interest are proposals that support practices that (i) improve school readiness (including social, emotional, and cognitive); and (ii) improve the transition between preschool and kindergarten. Include why it's important to have a high quality early childhood program” (p.4).*

*“Priority 4: The Secretary is particularly interested in applications in which the State plans to expand statewide longitudinal data systems to include or integrate data from special education programs, English language learner programs, early childhood programs, at-risk and dropout prevention programs, and school climate and culture programs, as well as information on student mobility, human resources (i.e., information on teachers, principals, and other staff), school finance, student health, postsecondary education, and other relevant areas, with the purpose of connecting and coordinating all parts of the system to allow important questions related to policy, practice, or overall effectiveness to be asked, answered, and incorporated into effective continuous improvement practices” (p.4).*

*“Priority 5: Invitational Priority -- P-20 Coordination, Vertical and Horizontal Alignment. The Secretary is particularly interested in applications in which the State plans to address how early childhood programs, K-12 schools, postsecondary institutions, workforce development organizations, and other State agencies and community partners (e.g., child welfare, juvenile justice, and criminal justice agencies) will coordinate to improve all parts of the education system and create a more seamless preschool-through graduate school (P-20) route for students. Vertical alignment across P-20 is particularly critical at each point where a transition occurs (e.g., between early childhood and K-12, or between K-12 and postsecondary/careers) to ensure that students exiting one level are prepared for success, without remediation, in the next. Horizontal alignment, that is, coordination of services across schools, State agencies, and community partners, is also important in ensuring that high-need students (as defined in this notice) have access to the broad array of opportunities and services they need and that are beyond the capacity of a school itself to provide” (p.4).*

To sum up the above priorities, in order for a state to win the Race to the Top Early Learning Challenge (RTT-ELC), the applicant was encouraged to prepare clear guidelines on early learning system outcomes, building infrastructure for data monitoring systems, and designing a P-20 alignment throughout the state education system.

In Washington, as a response to the federal request for proposal, Joseph et al. (2010) from the Childcare Quality and Early Learning (CQEL) Center at the University of Washington (UW) partnered with the governing agency (Department of Early Learning [DEL]), Thrive by Five Washington (Thrive), and 93 participating sites across the state, which later become the Washington’s version of Quality Rating Improvement System (QRIS), Early Achievers. The pursuit and dream of having high quality early childhood programs began in 2009 (Joseph et al., 2010). Joseph (2010)’s team stated training and coaching intervention were provided to the pilot sites as well as baseline results by highlighting the needs for policy and programmatic efforts to support providers were shared. Joseph et al. (2010) noted one of the preliminary findings as “especially from programs that are characterized in low feedback loops, scaffolding for children who are having a hard time understanding a concept, queries that prompt children to explain their thinking; discussion and activities that encourage analysis and reasoning, integrating concepts, and advanced language modeling were found” (p.42). Despite there are many factors and logistical items that needed to be addressed, after iterations of additional rigorous analysis, Washington became one of the nine states receiving the initial grant of $60,000,000 for Phase 1 in 2011 (U.S. Department of Education, 2011). Shortly thereafter, Washington's version of QRIS - the Early Achievers system: framework for high quality early childhood system - was launched across the state.

Shilder (2019) in one of the recent BUILD reports (2019) defined QRIS as:

*“...systemic approach to assess, improve, and communicate the level of quality in early and school-age care and education programs. According to the U.S. Department of Health and Human Services (DHHS), QRIS are similar to rating systems for restaurants and hotels in that they award quality ratings to early and school-age care-and-education programs that meet a set of defined program standards. By participating in a state’s QRIS, early and school -age care providers embark on a path of continuous quality improvement. In Washington State, the QRIS, called Early Achievers, was designed for programs serving children prior to school entry. The state began developing the school-age QRIS in 2015” (p.4).*

As a governing body of an early childhood Quality Rating Improvement System (QRIS) in the United States, BUILD Initiative (BUILD, 2013) provides support to states on how to create a framework for building a high quality QRIS. BUILD (2013) highlighted a comprehensive and successful implementation of QRIS will support program quality comparable across the system. QRIS will create standards to the program standards, solidify the infrastructure for supporting quality improvement as well as assessing achievement throughout the process of Continuous Quality Improvement (CQI) (Build, 2013). As of December 2020, 65 QRIS models exist in the United States and its territories including California and Florida that have structured county/regional level QRIS (BUILD, 2020).

As the QRIS supports multiple aspects of the early learning system, Zaslow and Tout (2014) synthesized the unique characteristics of QRIS including its goals, activities, and outcomes associated with the system initiatives. Zaslow and Tout (2014) described four distinctive themes of QRIS that were introduced in its early phase (early 2000s to mid-2010) including QRIS as a hub to support multiple layers of interventions, majorities of activities for supporting QRIS are illustrated as system level activities, links between QRIS system quality features to the child level outcomes, and levels of QRIS implementation. Despite there’s no single model of QRIS, the following five components can generally be found in a QRIS model (Paulsell et al., 2013):

* Quality standards
* A process for assigning ratings based on quality standards
* A process for supporting providers in quality improvement
* Financial incentives
* Dissemination of ratings

Paulsell et al. (2013) described *quality standards* as “an aspect of quality that the QRIS is trying to promote” (p.271). These categories of quality standards can be classified into licensing compliance; ratio and group size; safety; curriculum; environment; child assessment; qualifications for workforce; family partnerships; administration and management; accreditation; provisions for children with special needs; community involvement; and, cultural and linguistic diversity. Paulsell et al. (2013) also added that although the system aims to support child level outcomes, the link between child level outcomes to QRIS standards lacks from the early learning literatures.

*Assigning ratings* are based on documents and evidence gathered through review of a care provider’s on-site documentations, credentials, or any information captured via site observations (Paulsell et al., 2013). Similar to those available from hospitality or restaurant industries, a care provider can receive a rating from one to five stars based on a site’s quality. Assessors for these activities are mostly employed by external entities (i.e. higher education institutes) and inter-rater reliability with clear articulation of what’s expected from each level of ratings are prescribed by a state governing agency (Paulsell et al., 2013). In Washington, University of Washington, Cultivate Learning (formerly known as CQEL in the Joseph et al. (2010) report) provides such services up to 3,500 assessments in a given fiscal year.

*Quality improvement* includes a strategic plan of an individualized quality improvement plan for QRIS programs to prepare their participation for the QRIS (Isner et al., 2011; Paulsell et al., 2013; Smith et al., 2010). The topic for quality improvement varies based on the needs of a site. These could include navigation of the QRIS, rearranging classroom layout, support for curriculum implementation. Or working on a particular domain based on quality assessment tool guidelines (Paulsell et al., 2013; Tout et al., 2010). Similar to the effect of implementing a quality standard to a program, the activities of quality improvement have not been linked to the strategies that are considered effective/evidence-based practices as there are many unknown variabilities within a site which could lead to inconsistent plan for visits, support for modeling instructional practices, as well as resources for technical assistance (Paulsell et al., 2013; Smith et al., 2010).

Researchers (Tout et al., 2010; Paulsell et al., 2013) defined *Financial incentive* as a way to support or reward quality improvement for reimbursement of the cost, bonus payments for providers for a higher quality level that they have achieved. Paulsell et al. (2013) added other ways that a QRIS incentivizes including scholarship access to providers as well as wage enhancement and retention bonuses to increase the retention rate of the workforce.

*Dissemination of ratings* is the last component of a QRIS model. As participation in a QRIS program is voluntary in most states, Paulsell et al. (2013) emphasized the need for recruiting providers to participate in the system by gathering preliminary data including participants’ buy-in and engagement around the system as well as involving parents for communications as well. Again, additional research could help the field to understand what best motivates and supports providers and parents to join a QRIS program (Paulsell et al., 2013).

## Shift in focus from QRIS validation to inquiring implementation process

After the initial phase of initiation and conceptualization of QRIS (late 1990s to early 2010s), research around QRIS implementation was slowly growing. This includes linkage between financial incentives and its association with participation rate (Hallam et al., 2017; Tan et al., 2020), how the structure of a QRIS model addresses aspects of child level outcomes (Tout et al., 2020), process for continuous quality improvement and the impact of coaching to QRIS (Isner et al., 2011; Smith et al., 2010; Zeng et al., 2021), or understanding and evaluating the initial implementation phase of the QRIS (Boller et al., 2015).

It isn’t surprising to see the majority of the studies conducted on QRIS are mostly around validation studies of the QRIS implemented at a state level (Hong et al., 2015; Kirby et al., 2015; Lahti et al., 2015; Soderberg et al., 2016; Zellman & Karoly, 2015). As Boller and Maxwell (2015) stated, two of the suggested activities of the initial in the Race to the Top Early Learning Challenge (RTT-ELC) grant application for validating the QRIS implementation are “(*1) validating, using research-based measures, whether the tiers in the State’s Tiered Quality Rating and Improvement System accurately reflect differential levels of program quality” and (2) “assessing, using appropriate research designs and measures of program progress. the extent to which changes in quality ratings are related to children’s learning, development, and school readiness”* (p.349; also see U.S. Department of Education, 2011)*.*

Boller and Maxwell (2015) added some of the strengths and weaknesses of the current wave of QRIS studies including inquiring information about “the process of implementing a QRIS, quality improvement strategies, or systems change” (p.340). Boller & Maxwell (2015) stated QRIS states will not have time nor financial capacities to inquire about implementation practices, effective ways to motivate participants to join a QRIS, or what roles or processes of quality improvement features or system change are addressed in the QRIS.

As a community-oriented researcher, I felt alarming and anxious as the current state of QRIS research lacks understanding of how continuous quality improvement or features of system changes addressed by different actors of a system contributes to outcomes observed from a QRIS.

Lahti and the colleague (2015) shared similar perspectives to Boller & Maxwell (2015) in regards to validating the QRIS program. Lahti et al. (2015) shared that QRIS standards are often complex and contain multiple components and measures with its variation by state, the team believe it’s important to carefully address and identify outcomes or the goals for validating a QRIS. Lahti et al., (2015) added QRIS is a process that requires multi-step approaches. Based on the design of a program quality standard and strategies for how to measure those goals, the result may vary to provide accuracy and how the ratings represent the quality of such measure. Lathi et al. (2015) added if a state’s goal is to understand and measure the physical health of a child, it is inappropriate to use some of the common global child care quality assessment tools such as CLASS (Pianta et al., 2008) or Environmental Rating Scales (ERS; Harms et al., 2007).

Lahti et al. (2015) also contributed to the field by suggesting four classifications around validating QRIS programs. The first approach is around “Examining the validity of key underlying concepts” (p.282). This can be conducted via examining whether the components of QRIS that are constructed in a system are capturing the “right” outcomes of the intended measures via collaborating with experts and/or empirical support. The second approach is about “Examining the measurement strategy and psychometric properties of measures used to assess quality” (Lahti et al., 2015, p.282) which can be a typical study available in the literatures around examining the relationships and the feasibility of some of the assessment tools (i.e. ERS or CLASS) and its intended outcomes. The third is “assessing the outputs of the rating process (Lahti et al., 2015, p.282)” by illustrating the growth of a program based on its type and how its rating level has changed over time. The last suggestion is “examining how ratings are associated with children’s outcomes” (Lahti et al., 2015, p.282). This could be conducted via a regression study or exploring an association of child level assessments (i.e. Teaching Strategies GOLD) or documentations a child’s progress on a learning domain. As I reflect suggestions from Lahti et al. (2015), it was clear that there’s a lack of interest or understanding from the field around “why” these QRIS activities are happening and what works better at which level by whom. On the other hand, the past five years (2016 - 2021), researchers (Bromer et al., Hallam et al., 2017; Tang et al., 2020, Zeng et al., 2021) shed light for a change. There were multiple attempts to address and inquire the implementation process including activities around CQI and coaching.

Tang et al. (2020) demonstrated the impact of Delaware’s QRIS - Delaware Stars. Tang and the colleague (2020) hypothesized there could be an association between financial incentives, on-site technical incentives that influence change in the Family Child Care Environment Rating Scale Revised (FCCERS-R, Harms et al. 2007) subscale scores among 139 Family Child Care (FCC) participating in the Stars program over time. The study found FCC programs that received more financial incentives (i.e. grants) and those who participated in the on-site technical assistance (i.e. coaching) showed greater growth over time from pre-post assessments in FCCERS-R composite scores (Avg. subscale score from 3.78 - 5.52 to 4.99 - 6.35) (Tang et al., 2020).

Another study conducted by Hallam et al. (2017) found similar results from examining the QRIS participation rate among FCC providers in Kentucky and Delaware and addressed the perspectives from FCC providers. The mixed-methods study (Hallam et al., 2017) highlighted findings from focus group sessions. Hallam’s team (2017) found participants shared the benefits of QRIS participation as 1) quality improvement, 2) professionalism (i.e.increasing sense of professionalism in the field) 3) increase in enrollment (i.e. QRIS increases the number of new families interested in the program), 4) financial incentives and 5) technical assistance support (i.e. coaching/technical assistance by QRIS technical assistance specialists).

One of the most recent studies of how QRIS score has changed among participants based on the impact of technical support and CQI came from Zeng's group (2021). Zeng et al. (2021) worked with Family Child Care (FCC) professionals in the state of Massachusetts. The research team focused on empowering FCC professionals by providing cohort-based business and entrepreneurial leadership training in addition to the coaching sessions with resources for 34 high poverty neighborhood FCC professionals (Zeng et al., 2021). By adapting the Bromer and Korfmacher (2017)’s conceptual model, Zeng and the colleagues (2021) demonstrated results of implementing the Small Business Innovation Course (SBIC) supported “significant pre–post differences and a large effect size for business management self-efficacy at the construct level (M =1.45, SD =0.95, p<0.001, d=1.53)” (p.33). What was more interesting to me was the comment provided by a research participant including “I can already prepare a budget and I can make plans for a future, I have some questions, I hope we can follow the classes so that we can continue working” (Zeng et al., 2021, p.34).

Finally, as noted earlier, Zeng et al. (2021)’s support model stemmed from the work of Juliet Bromer, Margaret Reardon, and Patricia Molly since 2017. Bromer et al. (2020)’s work has been one of the influential models in the United States for supporting FCC programs across early learning systems. Bromer et al. (2020) emphasized despite FCC providers accounts for providing majority of the infrastructure and services in the early childcare system, policy makers often leave FCC from the equation for policy initiatives. As the requirements for licensing, QRIS, or other federal/state/local regulations increased over time, Bromer et al. (2020) stated the system is not designed with FCCs in mind. Bromer’s group (2020) reminded the loss of FCC programs may be caused by the current system structure as well as lack of scientific evidence nor strategies around engaging and retaining FCC providers other than what’s already known from previously inquired works of the Break Through Series (BTS) collaborative model (Daily et al., 2018) or implementing small-scale changes using the Plan Do Study Act ([PDSA] Berkel et al., 2019; Byrk et al., 2015; Conradi et al., 2011; Deming, 1986; Lynn et al., 2007; Shewhart, 1931).

## Overview of Continuous Quality Improvement (CQI)

The work to initiate and implement a high quality Quality Rating Improvement System (QRIS) (BUILD, 2013) wasn’t too different from how Goffin and Washington (2013) described challenges and next steps for the early childhood education system in the United States. The governing body of early childhood QRIS - BUILD (2013) - acknowledged the initial work around QRIS across the United States were focusing on “ratings, accountability, and monitoring of early learning programs” (p.1). There have been shifts around the transition to strategizing quality improvement processes and providing support in combination of data-driven Continuous Quality Improvement (CQI) processes after its initial introduction (BUILD, 2013). CQI is defined as an internal process of ownership by the team in the program to leverage change internally within a QRIS program (BUILD, 2013). Especially for the statewide level of CQI, it is crucial to form inter-agency partnerships to strengthen the QRIS system and establish a feedback loop to stay connected with the ECE communities regionally is considered one of the key ingredients and prerequisite to build a successful and sustainable CQI effort (BUILD, 2013). According to the BUILD report (2013), communications and partnerships were by far the most important ingredients in building a successful and working QRIS.

The current version of how instructional leaders, practitioners, policymakers and researchers address Continuous Quality Improvement in the Quality Rating Improvement System or Early Childhood Education system is originated from the work of improvement scientists and evaluation practice experts’ (Christie et al., 2017; Daily et al., 2018; Wiggins, & Mathias, n.d.) the interpretation of the Deming (1986)’s process improvement work. Deming (1986) is considered one of the most influential figures who demonstrated Shewhart’s Plan, Do, Study, Act (PDSA) cycle (Shewhart, 1931) in business, engineering, and manufacturing fields. The interpreters of the work also expanded the concept of “quality control” in the field of healthcare (Berkel et al., 2019; Conradi et al., 2011; Lynn et al., 2007) since early-60s and 70s. The concept also evolved into the modern version of improvement science (Byrk et al., 2011/2015; Langley et al., 2009; Lemire, et al., 2017; Perla et al., 2013) and became a branch of work around quality improvement work in an education setting (Daily et al., 2018; Zaslow et al., 2011; Zellman & Fiene, 2012) as a framework of Quality Rating Improvement System (QRIS) in ECE system.

As a pioneer of Quality Improvement in the modern era, Shewhart (1931) claimed the defining components of quality control processes were based on philosophical principles of Aristotle (Kraut, 2018) to perceive quality as “goodness of an object” (Shewhart, 1931, p.37), or could be a mean to explain how a word (i.e. qualis) or a chemical combination (i.e. H2O) as “chemical and physical properties” (Shewhart, 1931, p.38), quality of a certain product or specification, or quality as a “relationship” (Shewhart, 1931, p.49). There could be many ways to interpret what Shewhart really means by “quality,” Shewhart displayed quality can be viewed in four different quadratics of “use, cost, esteem, and exchange” (Shewhart, 1931, p.53). Shewhart (1931) continued and acknowledged that other than the dimension of “use,” there exists variations among cost, esteem, exchange and can be relatively subjective and it could vary widely.. The terminology variation would be considered an important topic and will be addressed in the future sections as well.

Another view adopted in the early childhood education quality improvement processes came from the implementation science field, especially from the field of Public Health. Perla et al. (2013) articulated quality control as a form of “science of improvement.” Perla’s group’s articulation of the work Shewhart was closer to perspectives of epistemology (Feldman, 2002) and psychologism (Thagard, 1988) in combination with Shewhart's cycle of Plan, Do Study, Act (PDSA). Perla et al. (2013) stated “improvement has meaning only in terms of observation based on a given criteria (p.171)” and their interpretation embraces different degrees of psychologism (Thagard, 1988) - the study of epistemology via inquiring cognitive sharing and its mechanism similar to how Locke (1996) described. The concept of psychologism as well as its logic can be distinguished into three types: weak; strong, or anti-psychologism (Perla et al.,, 2013). From a weak psychologist perspective, weak psychologism is considered a logic that is prescriptive of mental processes. Strong psychologism possesses a logic that is descriptive of how humans think. On the other hand, anti-psychologism is perceived as a logic that has nothing to do with any mental processes at all, thus shall not be considered in the process of improvement. Perla et al. (2013)’s philosophy of quality improvement emphasized cognitive processes and mental structures of a human being rather than addressing and identifying the steps of quality improvement.

Perla & Perry (2011) also claimed the process of quality improvement also ties into the reasoning processes based on Dewey (1997)’s definition of knowledge as conscious and voluntary effort to establish belief upon a firm basis of reasons. Similar to the justification of Plato’s “Justified True Belief” model (Ichikawa & Steup, 2018), Perla & Perry (2011) wrote “the idea that knowledge is not simply information about the best scientific evidence but rather the intersections of belief and best evidence at the heart of quality improvement” (p.125). Depending on a person’s beliefs or reasoning around one’s quality, this can shift even if it’s considered what scientists claim evidence-based practices, again addressing the philosophical aspects as well as the cognitive perspectives of one’s view in the quality improvement process.

Lemire et al. (2012) praised the foundational work around Deming’s (1986) systems of profound knowledge around the topic. The group (Lemire et al., 2012) summarized the Deming’s cycle via quoting the work of Langley et al. (2009) as 1) Knowledge of systems, 2) knowledge of psychology, 3) knowledge of variation, and 4) knowledge of how knowledge grows. As growing definitions among improvement scientists, Lemire et al. (2012) provided clear terminological distinctions between improvement science and continuous quality improvement. Improvement science is about “developing, testing, implementing, and spreading change informed by subject matter experts” (Lemire et al., 2012, p.25) whereas continuous quality improvement is based on a “data driven change process that aims to systematically design, test, implement, and scale change toward systematic improvement as informed and defined by the experience and knowledge of subject matter experts” (Lemire et al., 2012, p.25). Both definitions included the factors such as “change,” “subject matter experts,” and “knowledge” as the primary ingredients of the work; the only difference of CQI to improvement science that’s noticeable was about the factors “data” and “scalability.” The latter concept of scalability seemed a bit different than the original intent of Shewhart’s work on understanding the processes of the change through systematic inquiries on a smaller scale.

Based on literatures and perspectives from implementation scientists, Continuous Quality Improvement (CQI), evaluation, improvement science, and performance management all share one common theme: any processes of defined CQI activities require specified data sets that are considered high quality and meaningful to drive insights to those who are using the data as a team, a decision maker, a recipient, or a community member. And this isn’t different in the field of early learning especially when it comes to address CQI as a fine-tuned process. Plan, Do, Study, Act (PDSA) (Byrk et al., 2015; Deming, 1986; Lemire et al., 2012; Perla et al., 2010) is an iterative process that promotes quality improvement. PDSA requires three questions:

* In a goal setting stage, we are trying to understand “What are we trying to accomplish?”
* During the measurement process, the team will address “How will we know that a change is an improvement?”
* Last but not least, in the last stage of PDSA, the team would follow up with a question, “What changes can we make that will result in improvement” to demonstrate the outcome of the iterative process.

Two fundamental features (Langley et al., 2009; Lemire et al., 2017) of this work requires improvement from continuous developing, testing, iterations of implementations, and changes; and recognitions of subject matter experts for defining and informing each step of a PDSA.

As noted by Christie et al., (2012, p.14), because the focus of PDSA is local and emphasizing the implementation of “small rapid cycle tests of changes,” data are usually collected by those who are the front-liners of the system such as a physician in a health care system or a teacher in a classroom. The goal is to improve outcomes that are determined by the team members practiced by owners of each process. These are considered concrete front level practices rather than a high level change such as if someone is trying to pursue a cultural shift or change.

In a general PDSA cycle (Moen et al., 2012), the first step is to clearly state the objective of the PDSA cycle as well as answering some of the corresponding questions. In this stage, the key specification is considering determining how the data will be collected throughout the PDSA cycle by where, when, and whom to develop an “operational plan” (Lemire et al., 2017, p.28). In the second step of the PDSA cycle, implementation is the key component of this stage. Documentation of emerging issues, challenges, or successes are highly recommended and these are considered steps to ensure transparent and systematic process (Lemire et al., 2017). In the third step, this is a stage where all team members compare and interpret observed patterns in the data and predict the captured information to identify what are similarities and contradictions of what is expected. These are usually done by embedded practices based on “past knowledge and experience (Lemire, Christie, & Inkelas, 2017, p.28).”

In the final stage of PDSA, this would be considered as an opportunity to provide additional modification or changes for desirable change before rerunning the cycle again, and it would serve as an opportunity to create a “learning loop, in which iterative rounds of developing, testing, and implementing changes (Langley et al., 2009; Lemire, Christie, & Inkelas, 2017, p.28)” that takes place. Lemire’s group (2017) also ensured that there is no one way of carrying out the PDSA cycles yet highlighted the principles suggested by Langley’s team (Langley et al., 2009, p.145) into three principles of “testing of change (Lemire, Christie, & Inkelas, 2017, p.28)” into the following:

* Principle 1: Test on a small scale and build knowledge sequentially
* Principle 2: Collect data over time
* Principle 3: Include a wide range of conditions in the sequence of tests

In the real-world application of PDSA, these detailed steps may not be considered feasible and a typical “black box” implementation approach can be found (Taylor et al., 2016).

## Linking CQI, QRIS, and Coaching in Early Learning

Early Achievers employed a similar framework to the PDSA cycle that can be found from the implementation science field. Keller (2017) demonstrated the six integral structures of the Early Achievers “House” framework and the guiding process for navigating the framework. These include 1) *individualized learning and teaching*; 2) *engaging interactions and environments*; 3) *family engagement and partnership*; 4) *screening and ongoing assessment*; 5) *curriculum and learning opportunities*; and, 5) *professional development and training including Communities of Practice (COP) and coaching*.

Keller (2017) defined guiding principles as the critical component of the COP and coaching as it compromises as a roadmap or “GPS” that “helps coaches to navigate paths that they travel with providers to the house” (p.6). With its three tenants of culturally responsive coaching, parallel processing, and adult resilience, the guidelines work as a mechanism to provide variabilities around how coaches work with providers that influences the way that coaches interact with providers, for those who interact with children, including families and community members of the society that a child belongs to (Keller, 2017). The principle was fairly similar to how we holistically think about the ecosystem of the state ECE.

on et al. (2014) described quality improvement in ECE settings into system/state-level, program-level, and practitioner or staff - level. At a system level, the state can apply strategies to support improvement of “quality indicators, measure and rate the quality of ECE programs, and provide coaching and other incentives to help programs achieve higher quality. (Daily et al., 2018, p.3).” At a federal level, Child Care and Development Block Grant (CCDBG) is distributed to grantees. Grantees have flexibility in how they want to spend the grant to support local systems and it can be focusing on “child care licensing efforts” or “providing technical assistance such as coaching and consultation and training (Daily et al., 2018, p.4).” At a program level, CQI can be focused on improving “structural” and “process” quality to elevate positive outcomes for children (Daily et al, 2018. p.3). These aspects of the work can be categorized into attaining national accreditation, meeting and exploring a variety of quality indicators of QRIS, or focusing on business practices of those providers, or improving physical environment or instructional support at a classroom level. At a practitioners and staff level, CQI can be targeted on developing individuals’ skills and competencies (Daily et al., 2018). This can be done by improving instructional practices by offering subject level deep dive training, workshops, coaching, and supporting professionals to attain higher educational credentials. From a practical point, the authors claimed this could also mean that a director of a site can engage with the site team members to develop a quality improvement plan (Daily et al, 2018) as there may be a case of having limited time and resources for on-site support.

Similar to the QRIS, the concept of Continuous Quality Improvement (CQI) is in its infancy (BUILD, 2013; Daily et al., 2018). Despite the field is eager for innovations and implementing strategies to accelerate and enhance the existing efforts (Daily et al., 2018), there still exist needs to understand the complex landscapes of the ECE system (Wenger-Trayner & Wenger-Trayner, 2015) to truly operationalize to identify different contextual layers of the field from a system convener’s perspective to fully initiate CQI in all levels of ECE.

It seems worth noting the current coaching framework applied in the Washington statewide QRIS as well as the role of coaching and professional development in the early childhood education system in improving quality of early learning care can vary. According to Candace Bixler (2018; referenced by Knight (2009, p.2) as a personal communication) who’s serving as an educational specialist and leader in professional development, Bixler commented “What we are doing right now in education is like bringing together successful coaches from varied sports, basketball, gymnastics, football, tennis, and swimming to develop a winning team when we haven’t even determined the sport or the playing field.” As I reflect this statement, I felt the comment resonated with the limited information available from literature; on the other the hand, this bring opportunity for educational researchers to synthesize what’s known so far about coaching as noted by Knight (2009), the word “coach” or variations of its terminology has appeared 193 times in the 2007 National Staff Development Council (NSDC) whereas in 1997, only 19 times has appeared.

From a broader perspective, coaching can be described as “partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential” (International Coach Federation [ICF], n.d.).

In the early childhood context, NAEYC (2011) defines coaching as

*“a relationship-based process led by an expert with specialized and adult learning knowledge and skills, who often serves in a different professional role than the recipient(s). Coaching is designed to build capacity for specific professional dispositions, skills, and behaviors and is focused on goal-setting and achievement for an individual or group” (p.11).*

The definition from NAEYC (2011) was similar to the definition suggested by the federal Head Start agency ECLKC (n.d.) on Practice-based Coaching (PBC) - one of the commonly used frameworks for coaching in the early childhood context. ECLKC (n.d.) defines PBC as:

*“A professional development strategy that uses a cyclical process. This process supports teachers’ use of effective teaching practices that lead to positive outcomes for children. PBC occurs in the context of collaborative partnerships.”*

The framework adopted in the Washington QRIS was also found from the Relationship-Based Professional Development Standards (DCYF, 2019),

“A relationship-based process led by an expert with specialized and adult learning knowledge and skills who often serves in a different professional role than the recipient(s)” (p.Appendix 1).

The definitions from above references seemed varied and this reflected concerns shared by researchers in the field (Artman-Meeker et al., 2015; Paulsell et al., 2013) that there’s a need for consensus around defining what’s considered coaching. There’s also a need to specify coaching relevant processes for improving instructions of a teacher, use of evidence such as setting goals, providing feedback, planning, observations, creating action steps (i.e. modeling, role-play, assistance) as these are considered essential for solid coaching experiences in the early childhood settings (Artman-Meeker et al., 2015). As the field agree QRIS promotes opportunities for measuring and improving practices from multiple layers including environments of care settings, instructional practices, communications with parents and general audience, as well as intentionality around using incentives (Paulsell et al., 2013; Tout et al., 2009), it seemed clear to me there’s a need to consider what’s evidence-based coaching practice in a QRIS setting that can be operationalized based on given flexibility of child care settings.

Attention around the field of coaching in the early childhood system is definitely growing and despite there’s a need to operationalize the concept of coaching especially around the QRIS context, there were some promising themes that researchers, policymakers, and practitioners can learn from existing literature around coaching and early childhood system:

1) Despite more research is needed in understanding how and why coaching works in an early childhood system (Joo et al., 2019; Keller, 2017; Lloyd & Modlin, 2012; Price, 2015; Smith et al., 2012; WestEd, n.d.; Zeng et al., 2021) and coaching activities are still considered as an “black box” implementation (Taylor et al., 2016) practice (i.e. inputs goes in, something happens, then unclear outputs lead to outcomes) (Howard et al., 2014), intentionality around coaching leads to positive outcomes for teachers and learners (Artman-Meeker et al., 2015, Snyder et al., 2015; Joo et al., 2019; Lloyd et al., 2021; Zeng et al., 2021) .

2) The trend of coaching in the early childhood context (esp. in the QRIS field) has shifted from heavily focusing on supporting curriculum development and its implementation practices from a technical assistance/consultation perspective for coaching to a program (Buysee & Wesley, 2005; Domintrovich et al., 2010; Fox et al., 2011; Neuman & Cunningham, 2009; Snyder et al., 2015; Wasik & Hindman, 2011) to emphasis on building relationships and support network for acknowledging steps incorporating in the process of coaching (Bromer et al., 2009; Halle et al., 2013; Lloyd & Modlin, 2012; Pierce, 2015; Keller, 2016; Zeng et al., 2021).

Another concern of the field around coaching activities and its workforce activities are around data driven decision-making processes. For instance, the newly established state agency, the Department of Children, Youth, and Families (WA DCYF) is a agency that linked former Department of Early Learning - the cabinet unit of early learning QRIS oversight agency with Children’s Administration in DSHS such as Child Protective Services’ investigations and Family Assessment Response, licensed foster care, and adoption support. One of the principles of the new agency (DCYF, 2017) is “a commitment to using data to inform and evaluate reforms, leveraging and aligning existing services with desired child outcomes” (p.5). Using data is something that actors in the Washington early learning system are advised to be mindful at the moment. Yet, the statement was quite disturbing as it was interpreted as the state intended to report out to the public with no evidence from what implementation practices were held.

Another added complexity in the system is around the role of coaches in the QRIS system. Killion (2009) described different roles of coaches and its impact. Killion (2009) stated, “To build relationships and establish their credibility, coaches may compromise their influence by engaging in tasks that have limited potential for impact on teaching and learning… identifying examples of coaching light is not easy since the key distinguishing factor toward the light side include testing students, gathering leveled books for teachers to use, doing repeated demonstrated lessons, finding Web sites for students to use, or sharing with teachers professional publications or information about workshops or conferences” (p.23). Reflecting on Killion’s argument seemed similar to what early learning coaches were assigned from the state level context as a multi player under an umbrella term - the “RBPD specialist.”

In the previous pilot study from the author (Hwangbo et al., 2019), the research team observed several variations of coaching approaches including coaches who implemented coaching light (i.e. needs assessment) and coaching heavy (i.e. scaffolding) among state funded coaches in the study. Yet, I can also find that it is very hard to see solid examples on how to coach “heavy” in the context of early childhood settings. Although the state emphasizes the importance of evidence-based practice or data-driven decision making, there exist limited opportunities for coaches to be trained on how to gather relevant information to inform their coaching practices as well as understanding different patterns happening among clients - coachees - in the system (Hwangbo et al., 2019). Participants (coaches) in the study claimed there’s a lack of support nor understanding around how coaching process was happening among different site conditions and program types; therefore, makes it difficult for coaches to juggle different tasks assigned by Early Achievers guidelines or performance standards if a coach was employed by a state funded program (Hwangbo et al., 2019).

There is a general framework around different types of instructional coaching practices (Knight, 2009) and, It is designed to contribute as a means to improve by informal conversations, presentations, reflecting based on observations, and refining and reflecting using student data sets and video examples, which seemed very similar to the statewide Practice-based Coaching model. Although the big four principles (classroom management, content, instruction, and assessment for learning, p.33) did not really seemed applicable from an early learning perspective due to the current caseload of coaches from eight to 25 caseloads, which can be up to 50-75 clients, this makes it harder for teachers to reflect data or assessment information. It seems often true that cases are assigned to coaches, yet fundamental aspects of the CQI practices still have not been addressed as a statewide implementation plan, especially in regard to the application of coaching in the state of Washington.

Neufeld and Roper (2003) demonstrated what would be the fundamental elements that are considered practical applications of coaching, its impact, and its practicality in a school system. Neufeld and Roper (2013) covered a wide range of topics including how to support coaches, what are the challenges that present while coaching, the impact of coaching, etc. It was interesting to reflect as the researchers (Neufeld & Roper, 2003, p.12) stated “... they [decision makers] neglect to address the fundamental questions about why this overall approach to literacy instruction was chosen, how the components fit together, and what its implementation is intended to accomplish. As a result, neither coaches nor principals know why they are being asked to implement what seems like yet another, arbitrarily chosen approach to instruction.”

Specifically in the early learning context, National Center on Early Childhood Development, Teaching, and Learning (NCECDTL, n.d.) provided a thorough job on laying out the landscape of one of the most common classroom/site level CQI practice, coaching in the Early Care and Education setting across child care and head start programs in the United States. The agency stated “coaching can be an effective strategy to increase quality, and consequently child outcomes” (p.1) and this seemed tying in to the fundamental principles of CQI and link it to the desired outcome of a system. As stated above, it seems CQI within the state level context - especially in the QRIS system - has means to use CQI strategies, yet it has not been fully operationalized. Office of Planning, Research, and Evaluation Breakthrough Series Collaborative (Daily et al., 2018, p.5) acknowledged that despite the increased use and support related to CQI, CQI is operationalized in narrower sets of practices. As it's in the early stage of implementation, the effectiveness of CQI in the context of QRIS is still unknown as well as the impact of coaching and its association to QRIS outcomes and child level outcomes remain unclear (Boller et al., 2014; Boller & Maxwell, 2015; Paulsell et al., 2015).

# Research Questions

Reflecting the concerns and ideas from literature, the current study addresses the following research questions:

* RQ1: What is the overview status of the coaching workforce in the Washington State Early Learning system including the number of coaches, caseloads, and the characteristics?
* RQ2: What are the characteristics of coaching activities reported on the statewide Web-based Early Learning System?
* RQ3: How can system actors and stakeholders reflect and utilize the currently available information to inform what coaching objectives/approaches are considered effective for the WA QRIS?
* RQ4: “How can QRIS implementation partners work together to improve the current system supporting coaches and evidence-based coaching practices?”

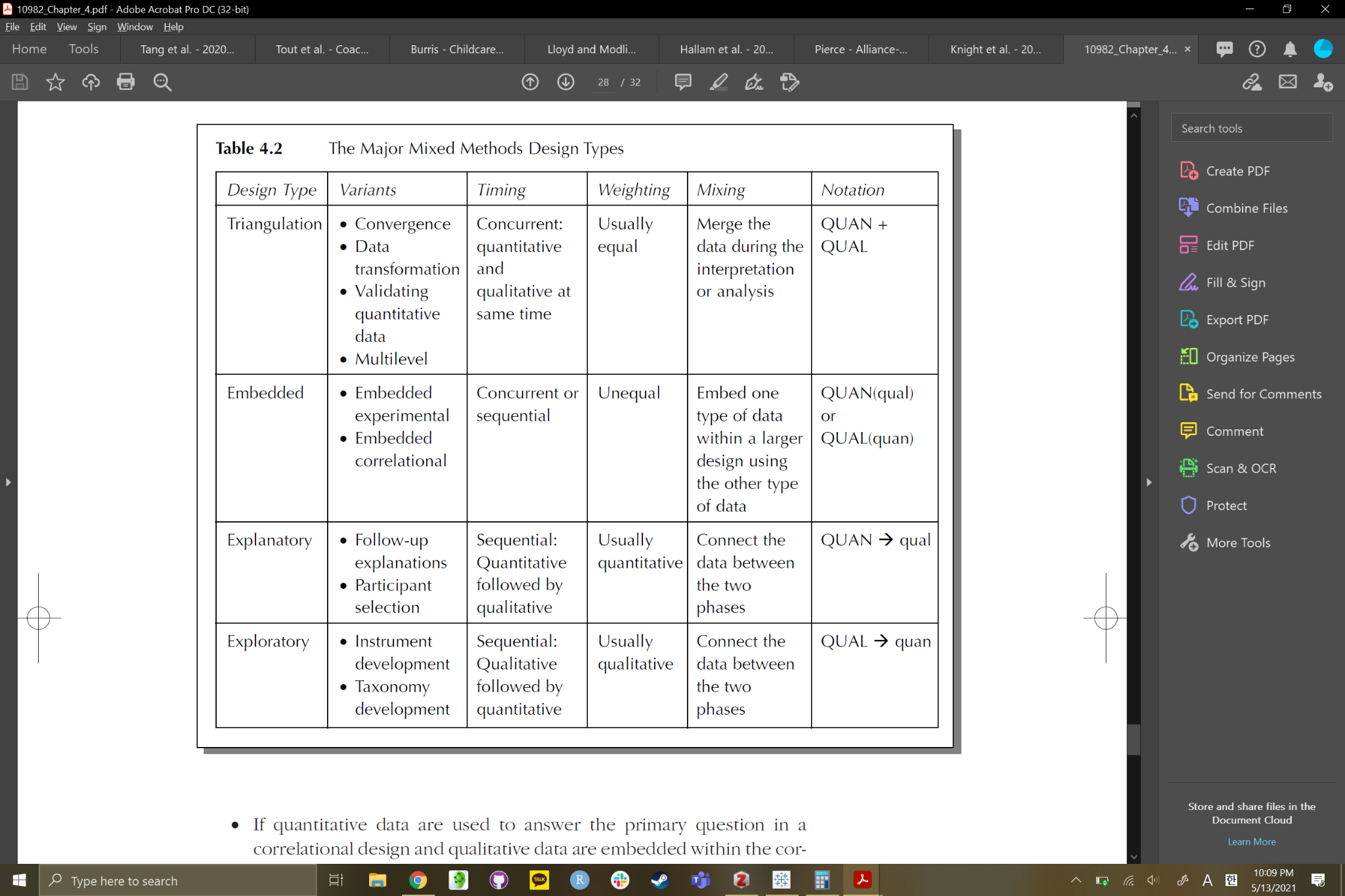
# Methods

This chapter will address the following criteria to demonstrate which type of mixed-method research that I have used in the research as well as the following information including:

* Research design;
* Data collection and analysis - quantitative & qualitative;
* Participant recruitment process - interviews; and,
* Validity, reliability, and methodological integrity.

## Research design

For the current study, the researcher used a mixed methods sequential explanatory design which consists of two phases: quantitative followed by qualitative (Creswell et al., 2003; Ivankova et al., 2006). In the sequential explanatory design, the researcher first inquires, collects, and analyzes quantitative data which are in a numerical form. The qualitative (text/string) data are collected and analyzed after the initial sequence and helps to explain, elaborate on, or validate the quantitative results derived from the first phase of the analysis. The qualitative phase builds on the quantitative phase then the two phases are connected or converged in the intermediate stage of the study. The rationale for this approach is to inquire about macro level understanding of quantitative data and its subsequent analysis to understand the general sense of a research problem (Ivankova et al., 2006). As articulated by the Ivankova’s group (2006), “the qualitative data and their analysis refine and explain those statistical results by exploring participants’ views in more depth (Rossman & Wilson, 1985; Tashakkori & Teddlie, 1998; Creswell, 2003)” (p.5). Figure 1 describes other types of mixed methods design.



**Figure 1**

*The Major Mixed Methods Design Types (Creswell, 2006, p.87)*

The goal of mixed methods research is to strengthen and expand the study’s analysis and its findings which then contributes to published literature (Schoonenboom & Johnson, 2017). Johnson et al. (2007) defines mixed research as the following:

*“Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e. g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration” (p.123).*

Greene et al. (1989, p. 259) classified five purposes for merging in mixed methods research. These include:

* *“Triangulation:* Convergence, corroboration, correspondence of results from different methods;
* *Complementarity:* Elaboration, enhancement, illustration, clarification of the results from one method with the results from the other method;
* *Development:* Use the results from one method to help develop or inform the other method, where development is broadly construed to include sampling and implementation, as well as measurement decisions;
* *Initiation:* The discovery of paradox and contradiction, new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method;and,
* *Expansion:* Extend the breadth and range of inquiry by using different methods for different inquiry components.”

Since the goal of the current study is to inquire and validate the ontological aspect of the QRIS system and how it’s capturing information around coaching followed by interviewing QRIS implementation partners across the state, the sequential explanatory design matched the needs of the research approach. Schoonenboom & Johnson (2017, p.110) states this approach will “heightened knowledge and validity” as well as supports legitimation of the process by validating multiple sources. The approach also supports the validity and integrity of the empirical evidence (especially from the quantitative results) as due to the current global pandemic, secondary data collection was one of the only feasible methods to conduct the current study which may degrade the quality and reliability of the empirical evidence.

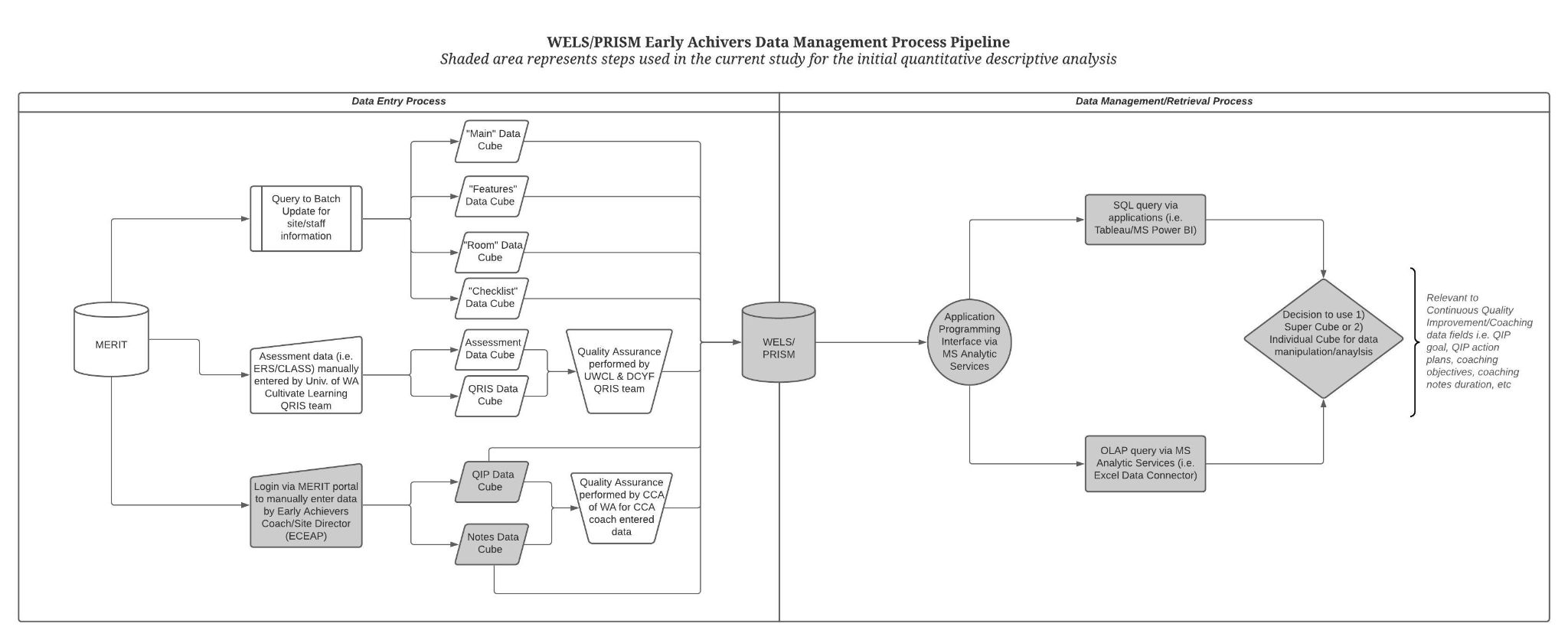
## Quantitative Sequence: Data Collection and Analysis of Coaching Activities and Coach Demographics

For the quantitative data collection, the author collected two sets of quantitative data through secondary data collection. The first data set represents coaching activity data (N= 2,757 sites) queried from WA DCYF Web-based Early Learning System Data Warehouse (WELS-DW) Notes cube (DCYF, n.d.). The WELS database was a primary source for Early Achievers coaches to enter information regarding quality improvement plans (i.e. co-created coaching goals and action plans with coachees) and types/objectives of coaching activities on a daily basis (DEL, 2015).

According to Subotić et al. (2013), OLAP is a certain classification of a database which enables educational organizations to support implementation of business intelligence. Originated from E.F. Codd (1993), a British mathematician in the 1970s, Subotić’s group (2013) referenced Codd’s foundational work to present the relational data model and became one of the most popular types of databases in the today’s world of relational databases which allows users of a database to query information of multiple dimensions including time, measures, and value of selected measures. Figure 2 represents the database pipeline for the current analysis.

Zweig et al. (2015) wrote many states do not systematically collect information on how early childhood education programs collect and use such data, and this seems similar to the documentation status of WELS-DW process, which led to the creation of Figure 2 by the author in the current study. Luisi (2014) also suggested that in the field of information technology, OLAP is one of the most complex architecture to understand due to “the need to intimately understand the business as well as a vast array of IT areas of specialization involving data architecture, reference data, master data, data governance, data stewardship, data discovery, data in motion, and a variety of associated disciplines...” (p.189). After reading some of the above references, it wasn’t surprising that there were little to no attempts to analyze and visualize the population level coaching activity data in the state due to the complex nature of the database.

**Figure 2**

*WELS/PRISM Early Achievers Data Management Process Pipeline*

*Note.* The access to WELS data set is currently restricted to Early Achievers network administrators and the raw data acquired for the current study will not be shared publicly; the author inquired access to WELS via *Application Programming Interface* (API) - A set of ID and Password which enables access to the backend database of WELS: PRISM. The data set is scheduled to be retired in July 2021 and will be replaced by WACompass (TBD) - a *Salesforce* based database platform; MERIT is the Workforce Registry and official system of record for early learning professionals in Washington State and is used for record and recognize the growth and achievements of the early learning field statewide (DCYF, n.d.).

For the purpose of this study, a descriptive trend analysis on 1) frequency based on types of coaching activities; 2) frequency based on coaching objectives; and 3) average time spent on coaching objectives were conducted. Loeb et al. (2017, p.0) suggests three key themes of *descriptive analysis*:

*“Descriptive analysis characterizes the world or a phenomenon—answering questions about who, what, where, when, and to what extent. Whether the goal is to identify and describe trends and variation in populations, create new measures of key phenomena, or describe samples in studies aimed at identifying causal effects, description plays a critical role in the scientific process in general and education research in particular.”*

*“Descriptive analysis stands on its own as a research product, such as when it identifies socially important phenomena that have not previously been recognized. In many instances, description can also point toward causal understanding and to the mechanisms behind causal relationships.”*

*“No matter how significant a researcher’s findings might be, they contribute to knowledge and practice only when others read and understand the conclusions. Part of the researcher’s job and expertise is to use appropriate analytical, communication, and data visualization methods to translate raw data into reported findings in a format that is useful for each intended audience.”*

Once the data has been collected, rounds of data visualization were conducted via Tableau software by presenting the queried information into the following format:

*Stacked bar graphs* (Wellman & Lipton, 2011)were used to display comparisons and change over time for measures such as type of coaching activities (i.e. coaching visits, in class visits, e-mails, travel time, virtual meetings, and webinars).

*Heatmaps* (Healy, 2019)were used to display frequency of measure including frequency of coaching objectives (i.e. correspondence, instructional support, relationship building, goal settings and action plans, etc) and average time spent for each coaching objective.

The second data set represents coach demographic reports and roster data sets from Child Care Aware of Washington (CCA of WA) the Department of Children, Youth, and Families Early Childhood Education and Assistance Program (ECEAP). The author also acquired a series of Coach Framework Training participant information from University of Washington Professional Learning and Coaching team (2015 - 2020). By outer joining (Rockoff, 2017) these two sets of data via R Studio tidyverse package (Wickham et al., 2019), the process enables users to view records of two data sets even if there’s no matching record linked by a primary key (i.e. Full name of a coach), and is therefore “an essential technique to understand and use” (Rockoff, 2017, p.123). The code for this process is presented in Appendix A.

The last iteration of data analysis was calculating the retention rate of Early Achievers coach workforce across the state. Adapted from principal period rates in demography (Preston et al., 2001) (i.e. the crude rate of in/out-migration between times *0 and T),* the retention rate was Early Achievers coach demographics was calculated by below calculation:

The Crude Retention Rate of Coach Workforce between times 0 and T:

*CRR[0, T] = Number of returning coaches from Year 0 / Number of coaches in Year T*

## Qualitative Sequence: Data Collection and Analysis of QRIS Implementation Partner Perspectives

For the latter sequence of the current mixed methods sequential analysis, six interviews via Zoom platform were conducted between April 20 to May 12, 2021. Despite the original intent of research was to address thoughts, perspectives, and concerns from Early Achievers coaches (See Appendix B. *Coach & Coach Lead Interview Questions* for the initial interview questions), QRIS implementation partners across state declined the researcher’s inquiry due to 1) conflict of interest around the original research question on identifying which coaching practices promote/project QRIS outcomes and, 2) concerns around time commitment due to COVID-19 outbreak for maximizing workforce time commitment for supporting child care professionals. Despite the initial request being denied, the network partners were willing to conduct 1-hour semi-structured interviews for the current study.

Before each interview, the researcher informed participants on the following information 1) Overview/motivation of the study; 2) Purpose and procedure of the interview; 3) Dissemination plan for the draft and final deliverable; 4) Risk and benefit of participating in the study; and, 5) Verbal consent followed by collecting demographic identifier/descriptors including the following information:

* Race/ethnicity;
* Current role in the QRIS implementation agency;
* Years of experience in the current position;
* Years of experience in the early childhood system;
* Specialty in coach support in the network agency, and;
* Pseudonym and other information if applicable.

The following questions were asked in the beginning of the interview session:

* Q1: From your own perspectives, please provide your perspectives on what’s captured on the WELS system (Coaching notes cube descriptive visuals were shared with the participant prior to the interview).
* Q2: Do you feel WELS is gathering what's considered intended information for the Early Achievers system?
* Q3: If there's a magic wand, in the next 3-5 years, what suggestions do you have to the state QRIS system and implementation partners in regards to collecting and managing coaching-relevant data and coach support system?

The interview participants were recruited via e-mail from the researcher three weeks prior to the data collection phase with instructions and above research questions based on suggested administrators/professional development specialists from following three sites:

* Child Care Aware of Washington network office (CCA of WA): A state non-profit agency for child care resource network support. CCA of WA provides statewide services around training, technical assistance, and coaching for licensed and Early Achievers participating programs. CCA of WA is the largest employer of early learning coaches in the state of Washington.
* Cultivate Learning: The university of Washington Cultivate Learning provides statewide support on research, QRIS monitoring, as well as support for providers and coaches. Cultivate Learning provides Washington coach framework training to Early Achievers coach workforce and hosts monthly webinars as a network hub between CCA of WA and DCYF.
* Department of Children, Youth, and Washington Early Childhood Education and Assistance Program (DCYF – ECEAP): DCYF is a cabinet agency of Washington state and ECEAP is one of the services provided by the DCYF early learning division supporting programs who serve children aged 3 and 4 in the state of Washington. As a state funded program, ECEAP provides extensive support for families at or below 110 percent of federal poverty level or for those who are on Individualized Education Programs (IEPs) for special education.

Upon the interview was held, the researcher reviewed the interview recordings within 48 hours by segments based on the timestamp collected from the Zoom transcription system. The transcripts were also shared with all participants via a secured system (ShareFile program).

Once the initial transcription was completed, the researcher utilized a general inductive analysis approach (Thomas, 2006) for the current study. Before describing the definition of inductive analysis or its coding/analytic procedures, below is a general logic behind the process of qualitative analysis.

In a social science research field. O’leary (2010) states use of statistical analysis as well as quantitative data have been “clearly defined and effective ways of reducing and summarizing data” (p.256). Yet, as statistics rely on reduction of meaning or phenomena to numerical values, if the data collected by a researcher is considered complex or intricate, it’s hard for a researcher to employ a reduction (deductive) approach. O’leary (2010) shared “there can be a loss of richness associated with the process” (p.256). Despite there’s a challenge to find effective and appropriate strategies to use such approaches, O’leary (2010) demonstrated the process of reflective qualitative analysis into the following steps: 1) organize raw data; 2) enter and code the data set; 3) search for meaning by theme (thematic) analysis; 4) interpret meaning; and, 5) draw conclusions.

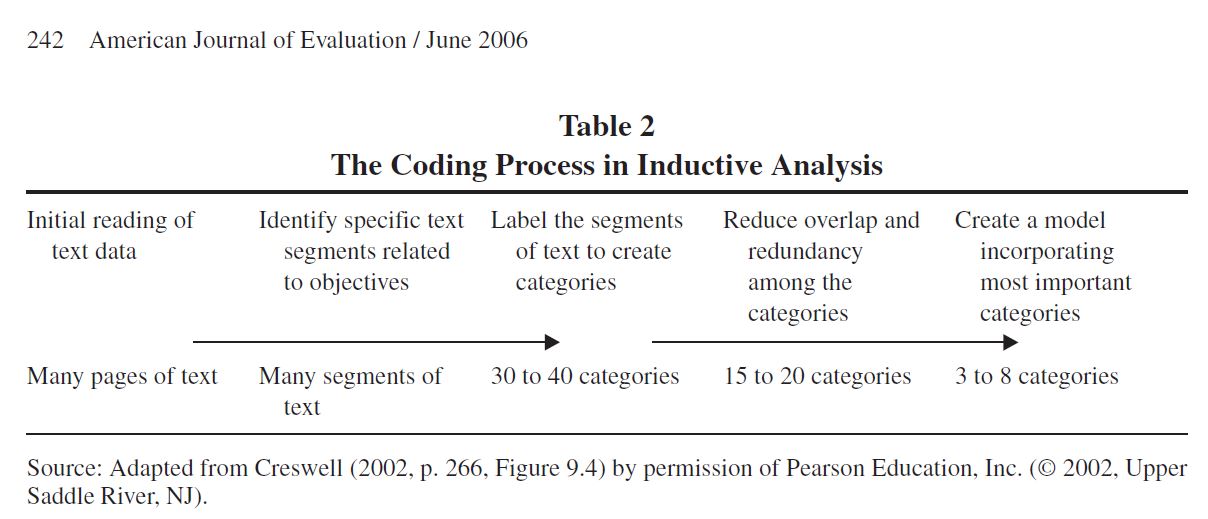
Similar to the approach demonstrated above by O’leary (2010), Thomas (2006, p.241) describes the general steps for developing categories from an inductive approach:

* + *Category label*: Create a word or short phrase used to refer to the category. The label carries inherent meanings that may or may not reflect the specific features of the category.
  + *Category description*: State a description of the meaning of the category, including characteristics, scope, and limitations of the category.
  + *Text or data* associated with the category: Describe examples of text coded into the category that illustrate meanings, associations, and perspectives associated with the category.
  + *Links:* Each category may have links or relationships with other categories. In a hierarchical category system (e.g., a tree diagram), these links may indicate superordinate, parallel, and subordinate categories (e.g., “parent, sibling” or “child” relationships). Links are likely to be based on commonalities in meanings between categories or assumed causal relationships.
  + *The type of model* in which the category is embedded: The category system may be subsequently incorporated in a model, theory, or framework. Such frameworks include an open network (no hierarchy or sequence), a temporal sequence (e.g., movement over time), and a causal network (one category causes changes in another). To be consistent with the inductive process, such models or frameworks represent an end point of the inductive analysis. They are not set up prior to the analysis. It is also possible that a category may not be embedded in any model or framework.

Figure 3 further illustrates the general process of inductive analysis. After conducting an initial reflection of interview transcripts, the categories on Table 1 were developed for the current analysis.

**Figure 3**

*The coding process in inductive analysis (Thomas, 2006, p.242)*

****

**Table 1.**

*Categories for inductive analysis: QRIS implementation partner perspectives*

|  |  |  |
| --- | --- | --- |
| **Category** | **Subcategory** | **Description** |
| *System-level* | QRIS | Comments/concerns/challenges around the design of Early Achievers system |
| WELS | Comments/concerns/challenges around WELS database system |
| *Agency-level* | Philosophy | Comments/concerns/challenges around agency coaching philosophy |
| Structure | Comments/concerns/challenges around agency structure for coaches |
| Training | Comments/concerns/challenges around onboarding training for coaches offered by the agency |
| *Practice-level* | Buy-in | Comments/concerns/challenges around buy-in and rapport from coachees (i.e. providers, directors, etc). |
| Caseload | Comments/concerns/challenges around coach caseload |
| Intentionality | Comments/concerns/challenges around intentionality and goals around coaching |
| Success | Comments/thoughts on successful cases on coaching practices |
| Virtual Coaching | Comments/concerns/challenges around virtual coaching approaches |
| *Wishes & Hopes* | | Wishes addressed by interviewee |

## Validity, Reliability, and Methodological Integrity of the Study

In the field of mixed-methods research, the validity issues (i.e. quality) are still questioned across the board (Oweugbuzie & Johnson, 2006). Yet, there are several ways to address these issues by articulating each of the issues.

Zohrabi (2013) described *content validity* as a “type of validity in which different elements, skills, and behaviors are adequately and effectively measured” (p.258). Since the current research employs the secondary data source that are self-reported coaching activities and demographic data entered by Relationship-based Professional Development specialists (coaches) in the field into the agency level database (i.e. CCA of WA or ECEAP) and the WELS OLAP database (DCYF, n.d.), the quality and validity of the data source can be misinterpreted or unclear.

The other validity question to address for the current study involves *external validity. External validity* is questioned how findings from a research study can be generalized in other settings or subjects (Burns, 1999; Zohrabi, 2013). Zohrabi (2013) quoted the words from Nunan (1999) “Is the research design such that we can generalize beyond the subjects under investigation to a wider population?” (p.17). This may or may not be addressed in the current study as the interest of population (scope of population) is to inquire all coaching relevant records and information that’s available from multiple data sources by conducting a descriptive analytic inquiry.

*Reliability* should also be addressed in a mixed-methods study. Burns (1999) points out “Could an independent researcher reproduce the study and obtain results similar to the original study?” (pp. 20-21). Zohrabi (2013) describes these issues of *external reliability* can be addressed by including 1) the status of the researcher; 2) the choice of the informants; 3) the social context, situation, and conditions; 4) the analytic constructs and premises including definition, units of analysis, and premises; and, 5) methods of data collection (LeCompte & Goetz, 1982; Nunan, 1999). Particularly for the 2nd sequence of the current study (interviews) can use careful considerations based on the information above.

*Internal validity* is another threat that can be described as if another researcher obtained the same data from the original study, will the reporting of the findings generate similar findings as the original study? (Burns, 1999). Zohrabi (2013) states the threat of internal validity could be also prevented by having perspectives from multiple researchers, examining the data set with peers, record the data mechanically (i.e. interviews for the current study was recorded via Zoom and transcribed via Zoom AI), and using low inference by readily quantifying categories or behaviors.

To address most of the above threats and concerns, the below section will describe the author’s intentionality as well as the positionality to establish methodological and contextual integrity of the study. As a former pre-K teachers serving in various settings (i.e. Private, Head Start, and public school K-8 program), the researcher had a privilege to work with all of the interview participants in the past as a team lead, data analyst for the state Department of Education (Washington Office of Superintendent of Public Instruction [OSPI]), graduate student intern at Child Care Aware of Washington (CCA of WA) network office, as well as a current Research Head of Cultivate Learning evaluation and coaching/professional development team.

The intent of the study is to inquire about the ontological (status of being) aspect of the current early learning system (Early Achievers) while the revision and transition of the QRIS system is in review (Fiscal Year 2020-21). The author also wants to address due to the global COVID-19 pandemic, as of July 2020, 14% of child care sites are currently closed, suspended, or permanently closed compared to pre-COVID-19 in the state of Washington as of July 2020 (CCA, 2020). This brings down the number of child care sites available for access in Washington from 4,839 sites to 4,178 sites. Several inquiries were made to state QRIS implementation partner network offices (DCYF-QRIS, DCYF-ECEAP, and CCA of WA) and per guidance from the network office officials as well as the current circumstance, the researcher felt it is not feasible and inhumane to interview actors on the front line such as teachers, child care professionals, family child care owners, coaches, and instructional staff on the line giving their best to support the community during the hardship. The study may not be at its ideal status as the researcher hoped, yet the current study contributes to stakeholders at a state level to inquire and reflect on moments of celebration for a better system in the future.

In January 2021, the current research study was approved by the Washington State Institutional Research Board (WSIRB) under the project code Project Code 2019-039: *Partnership for Pre-K Improvement: Washington*. As an international graduate student, it is a privilege to work as a lead for coaching relevant research questions within a team that the project is supported by a grant, and a generous amount of support was provided from the WSIRB and guidance from the parent research team as well as research team members.

# Findings

The current chapter will focus on reporting of the findings from the study including results from the quantitative sequence and qualitative sequence. As recommended by mixed methods researchers (Brown, 2001; Creswell & Plano Clark, 2018; Lynch, 1996; Zohrabi, 2013), the author will articulate results based on how the outcomes from the current study are similar and/or different from other related studies, theories, or frameworks.

## Findings from Quantitative Analysis

### Part 1. What is the status of Early Achievers coach workforce? - Demographics & Caseload

According to the QRIS implementation partners (Child Care Aware of Washington [CCA of WA] & Early Childhood Education and Assistance Program [ECEAP]) in the 2020-21 fiscal year, 316 Early Achievers coaches are either employed by CCA of WA or ECEAP programs across the state of Washington. Table 2 describes the overview of Early Achievers coach workforce analyzed for the current study.

As a primary agency for supporting Early Achievers programs via 1) coaching support; 2) Family support for child care access; and, 3) Scholarship administration for Early Achievers eligible participants, Child Care Aware of Washington launched as a nonprofit since 1986 and incorporated in 1989. As the one and only statewide child care resource and referral program in Washington, CCA of WA employs the largest number of coaches in the state as well as providing contracted coaching support to certain ECEAP contractors (i.e. school districts providing support at Early Achievers participating ECEAP sites). CCA of WA have six regional partners including Community-Minded Enterprises (Eastern WA); Catholic Family & Child Service (Central WA); Opportunity Council (Northwest WA); Child Care Resources (King & Pierce); Child Care Action Council (Olympic Peninsula); and, Educational Service District 112 (Southwest WA).

**Table 2.**

*Overview of Early Achievers coach workforce in the current study*

|  |  |  |
| --- | --- | --- |
| **Agency type** | **# of coaches in 2020-21**  **(% change from SY 2019-20)** | **Notes** |
| CCA of WA | 152 (-5%) | Instructional staff at licensed programs participating in Early Achievers including child care centers and family child care settings; Contracted via ECEAP contractors;  Caseload normally higher than ECEAP coaches |
| ECEAP | 164 (+15%) | Employed directly by ECEAP contractors;  Often a director serves as a coach; The coach in ECEAP system serves in a multiple role including education coordinator, administrator, site supervisor, etc |

According to the CCA of WA coach information report (See Appendix C. CCA of WA coach information) the number of CCA of WA coaches supporting Early Achievers programs decreased 5% in the 2020-21 fiscal year compared to 160 coaches in the previous year. 152 coaches returned to the workforce in the current fiscal year which include coaches from the following regional offices:

* Central WA: 28 coaches (18%)
* Eastern WA: 17 coaches (11%)
* King & Pierce counties: 59 coaches (39%)
* Northwest WA: 20 coaches (13%)
* Olympic Peninsula: 16 coaches (11%)
* Southwest WA: 12 coaches (8%)

Based on the coach contact information gathered from the ECEAP coach roster data set (DCYF, n.d.), 164 coaches are represented in the ECEAP coach workforce in the 2020-21 school year. The number of coaches is higher than the previous school year with 140 coaches. The crude retention rate of ECEAP coaching workforce of the current school year compared to the previous year was 84.62% with the following information:

* Number of coaches in SY 2020-21: 164
* Number of returning coaches from SY 2019-20: 132
* Number of incoming coaches: 33
* Number of outgoing coaches: 8
* Crude retention rate of ECEAP coach workforce: 100% x [132/(164-8)] = 84.62%

Additional descriptive analysis was conducted by joining two data sets (the ECEAP coach roster and the data set from Master Coach Training Tracker from Cultivate Learning) to answer the question, “What is the completion rate of ECEAP coaches in Coach Framework Training” (See Appendix A. for detailed steps for data join in R).

Per Master Data Coach Training Tracker (Cultivate Learning, n.d.; data available from 2015 to 2021 school year), 70 out of 164 ECEAP coaches (50%) in the 2020-21 school year have participated in the Early Achievers Coach Framework Training offered by Cultivate Learning. The participation rate has been slightly increased from the 2019-20 school year - 64 out of 140 ECEAP coaches (46%) - and this may be due to the following factors:

* Transition of role/position/work task of coaches during COVID-19 to remote settings instead of in-person visits to classrooms
* Delay/absence of communication between the training agency (Cultivate Learning) and the administrative partner (DCYF) due to staffing/furlough of coordination staff may also have contributed to the participation rate.
* Transition of modes of services from in-person training to a virtual synchronous (live) platform within the past six months which may have increased accessibility of the training.

The result also seemed a bit surprising especially given the rigorous performance standard stated on the 2020-21 ECEAP performance guidelines (DCYF, 2020) Exhibit E, Section 4.a. as “coaches must attend the Early Achievers Coach Framework training within six months of hire… regardless of modified or full services” (pp. 25-26), the quantitative analysis based on the existing data sources suggest not all coaches in the state of Washington are trained on the Practice-based Coaching framework, the backbone of the Early Achievers continuous quality improvement and coaching.

Another interesting result from the initial analysis was found by calculating coach caseload. A recently published DCYF report (April, 2021) states 3,845 programs are participating in Early Achievers including 2.271 center-based sites and 1,574 family child care sites across the state of Washington. Regardless of variations and conditions such as regions, program type, and coach agency, the estimated caseload per Early Achievers coach is around 12.17 sites. As validated by CCA of WA data team and ECEAP administrator that not all coaches are employed full-time. And for some cases, as coaches are serving for multiple contractors (i.e. CCA of WA coaches contracted by an ECEAP contractor who has no access to ECEAP coaches from a school district), the number of caseloads per coach questions feasibility and sustainability of evidence-based coaching practice in a dyad relationship. Despite there’s no recommendation around number of coach caseload (Smith et al., 2012; Keller, 2017) and perhaps speculation can be made that coaches are employing peer/group coaching strategies (Hobson et al., 2008; Ingersoll & Strong, 2011; Robbins, 2015), the results deemed questionable especially the Early Achievers coach framework recommends co-creating and building relationships, goals, and action steps based on the needs of individual clients.

### Part 2. What are types of coaching activities reported in the statewide database system? - Coaching Activity Reports and Objectives from WELS

After querying descriptive frequencies of coaching activities and objectives via Web-based Early Learning System (WELS; DCYF, n.d.) through connecting Microsoft Analytic Services through Tableau software, regardless of program types, Figure 1 represented coaching activities that require on-site visits (i.e. visits, classroom, on-site/out of classroom, off-site visit) were decreasing over time (from 2014 to 2021) whereas engaging coaching activities in a virtual format (i.e. virtual meeting, use of Coaching Companion tool, or webinar participation) increased in the same time frame.

This trend seemed inevitable due to the current global pandemic and results have shown little variation of types of activities reported regardless of a program type. The result from the reported coaching notes also showed promising evidence that coaches and coachees in the Early Achievers program continued to engage in continuous quality improvement virtually. Additional analysis on the topic could demonstrate in-depth inquiries of the sequence of coaching activities as the Figure 1 represented data for stakeholders yet it is insufficient and invalid to conclude whether coaching activities that are recommended by the Early Achievers coaching framework (Practice-based Coaching) were implemented and executed at a site level with fidelity.

Table 3.

*Overview of sites characteristics included in the coaching activity analysis*

|  |  |  |  |
| --- | --- | --- | --- |
| **Year / Program Type** | **Family Home Care (% of program in the reported year)** | **Child Care Center**  **(% of program in the reported year)** | **ECEAP**  **(% of program in the reported year)** |
| 2016 | 379 (31.8%) | 574 (48.2%) | 239 (20.1%) |
| 2017 | 565 (38.6%) | 663 (45.3%) | 234 (16.0%) |
| 2018 | 1095 (54.0%) | 777 (38.3%) | 155 (7.6%) |
| 2019 | 1606 (58.5%) | 1004 (36.5%) | 137 (5.0%) |
| 2020 | 1654 (60%) | 999 (36.2%) | 104 (3.8%) |
| 2021 | 1373 (59.8%) | 858 (37.4%) | 65 (2.8%) |

Additional descriptive analysis was conducted on visualizing coaching objectives data from the same data set. Figure 2 represents the practice level information on 40 coaching objectives reported by coaches. The heatmap figure (Figure 2) represents frequency of coaching objectives based on the saturation of a cell value - the darker the cell value represents, the more the coaching objective was reported by a coach at a site level. Top five reported coaching objectives are *correspondence*, *other, data input, learning environment,* and *resource linking*. The following presents the definition of the top five reported coaching objectives (DEL, 2015, pp 31-34):

*Correspondence* represents records for phone calls and emails for or planning, scheduling/cancelling appointments, etc.

*Data input* represents records for coaches and coachees entering data on WELS and other data sources provided by a contractor, district, or a site level (i.e. ELMS, MERIT, Schoology, Teaching Strategies GOLD, etc).

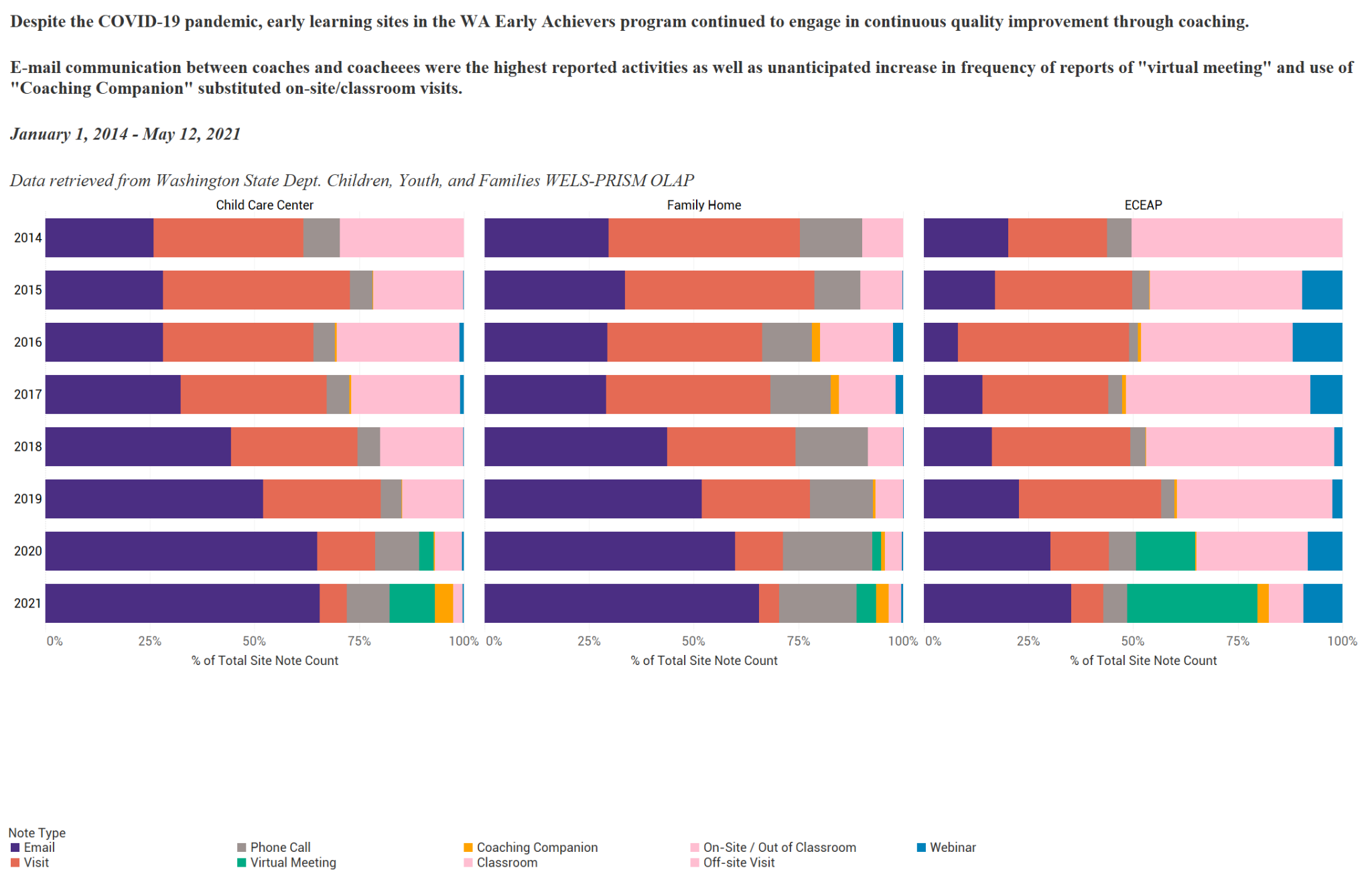
*Learning environment* refers to coach efforts to ensure that learning environments are well-organized, clean, safe and well-managed, and are full of social and emotional support, instructional interactions and materials that stimulate children’s thinking and skills which may include using the Environment Rating Scales as a resource to inform practice.

*Resource Linking* refers to coach efforts to support providers as they find resources beyond the scope of coaching, such as links to food assistance programs for families, child care assistance for families, appropriate counseling services for staff and/or families, technology and information services like libraries and computer labs and training services through various agencies, etc. This also may refer to coach efforts to support providers to find resources that support their Early Achievers goals, such as resources found in the WELS library, the Coaching Companion, resources identified or created by the coach, community resources identified by the coach or the provider, etc.

Data from Figure 2 shows the majority of the coaching effort are spent on administrative activities such as correspondence (i.e. emails, phone calls) and entering data, a coach was serving as a resource hub by providing resources to support coachees as well as engaging in improving the organizational and environmental quality of a care utilizing the metrics available from the Environmental Rating Scales (ERS) (Hamre et al., 1998) tool. The result validated some of the findings from previous studies (Zeng, 2017, Smith et al., 2012/2019) that often times, coaches in the QRIS program prioritize coaching support on improving the quality of a care by utilizing one of the commonly known child care quality assessment tools (i.e. ERS or CLASS). Also based on the design of the Early Achievers system, the *Learning Environment* standard was the criteria that allocated most eligible points to achieve high ratings in Early Achievers (55 points out of 100 points eligible from a participating licensed care).

On the other hand, Figure 3 may provide different aspects of what’s happening at a site level when time spent on each coaching objective were compared by a type of program. Despite the hours reported on coaching objectives ranging from .25 hours (15 mins) to 8 hours, there seems to be an overall trend of decreased number of hours spent on each activity over time since 2016. Clear distinction was found especially in 2020 and 2021 due to the pandemic. Specifically for ECEAP programs, the average hours spent on each activity were much higher than those in child care sites and family child care settings. As 373 sites (2019-20) are supported by 164 ECEAP coaches (2020-21) whereas the remaining 2500+ sites are supported by 152 CCA coaches, findings around higher number hours spent on each coaching objective in ECEAP programs deemed reasonable. Yet, additional in-depth inquiries by qualitative data collection will support the initial findings and inquires around why these patterns of decreased hours of coaching objectives were observed across programs. Additional information on “why” these patterns were observed will be articulated in the qualitative strand of the current study.

**Figure 1**

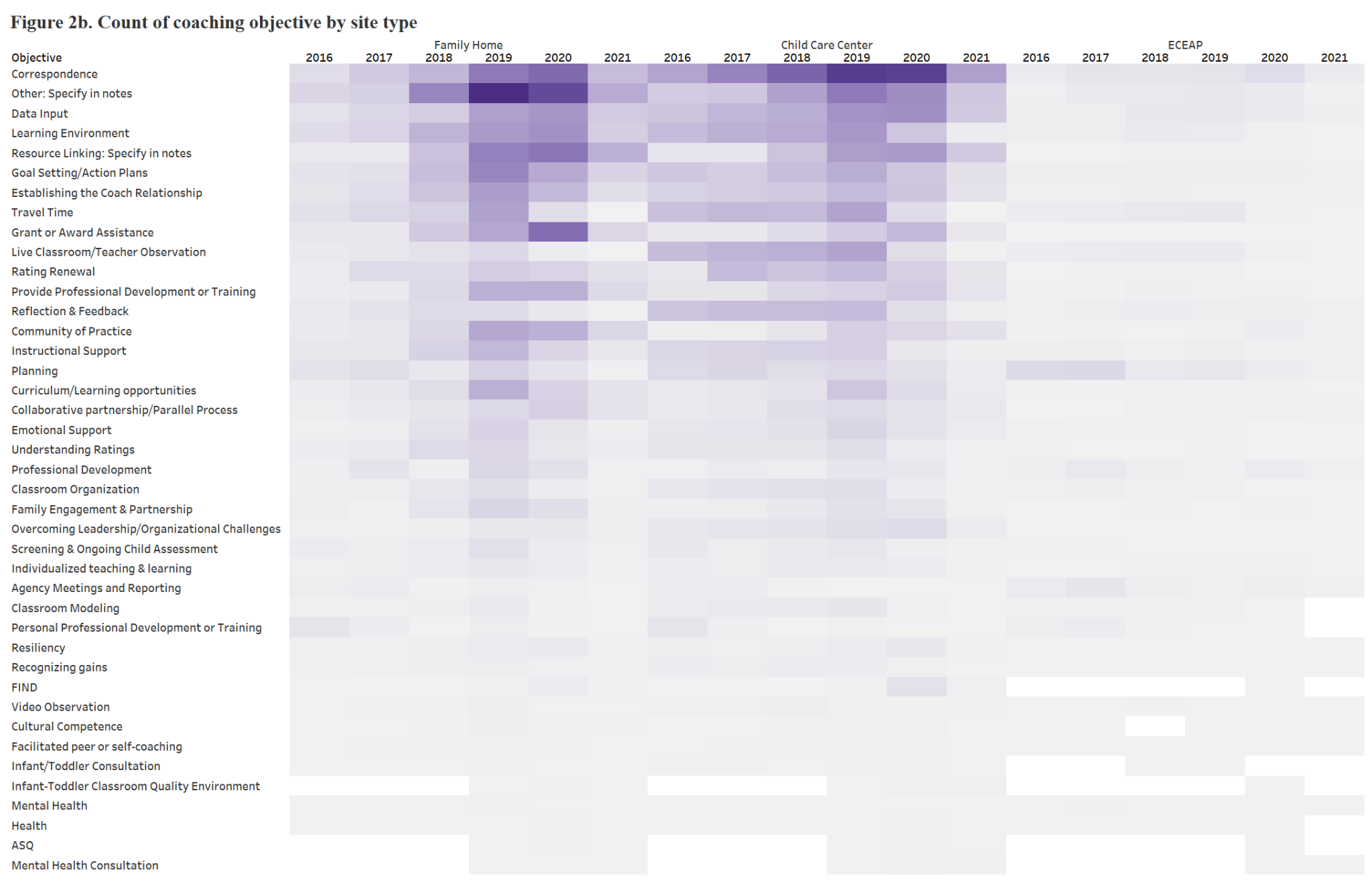
*Reported Coaching Activities on WELS-PRISM-Notes Cube by Early Achievers Program Type (January 1, 2016 - May 12, 2021)*



Data retrieved from Washington State Dept. Children, Youth, and Families Web-based Early Learning System (WELS)

*Note.* Figure 1 demonstrates the proportion of coaching activities reported per program type of Early Achievers visualized from WELS data set in a bar chart. ECEAP represents Early Childhood Education and Assistance Program funded by Washington State for children 3 and 4.

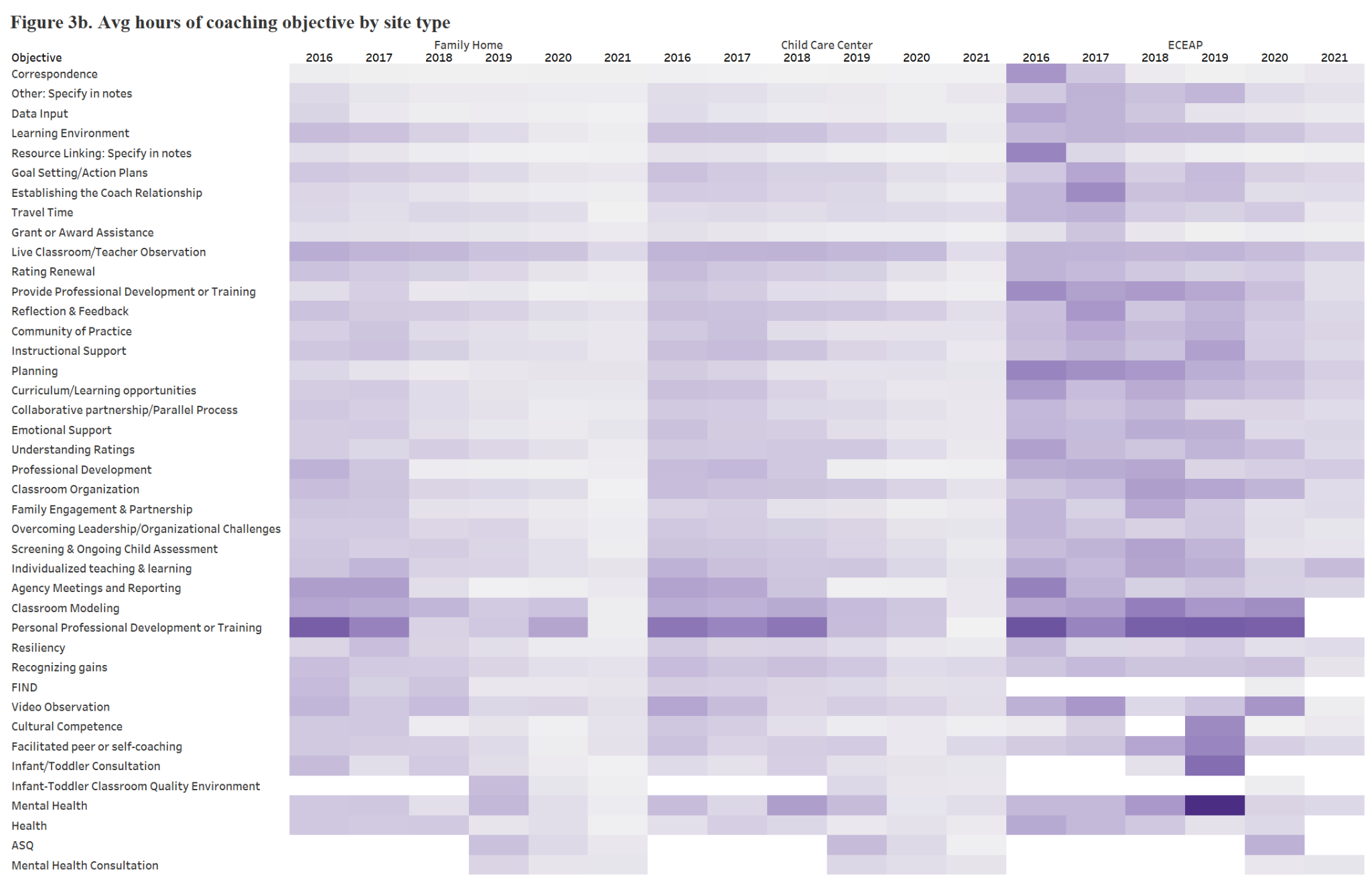
**Figure 2**

*Reported Frequency of Coaching Objectives on WELS-PRISM-Notes Cube by Early Achievers Program Type (January 1, 2016 - May 12, 2021)*

Data retrieved from Washington State Dept. Children, Youth, and Families Web-based Early Learning System (WELS)

*Note.* Figure 2 demonstrates the frequency of coaching objectives reported per program type of Early Achievers. The data set was queried from the statewide WELS database and visualized on a heat map. The color density represents frequency of reported coaching objectives. Darker cells present relatively higher rates of reported objectives compared to cell values across all three programs whereas the lighter color represents low frequency of coaching objectives. The site note count reported on this figure ranged from 1 to 10,663 records. ECEAP represents Early Childhood Education and Assistance Program funded by Washington State for children 3 and 4.

**Figure 3**

*Reported Avg. Hours of Coaching Objectives on WELS-PRISM-Notes Cube by Early Achievers Program Type (January 1, 2016 - May 12, 2021)*

*Note.* Figure 3 demonstrates the average hours of coaching objectives spent per program type of Early Achievers. The data set was queried from the statewide WELS database and visualized on a heat map. The color density represents average hours of reported coaching objectives. Darker cells present relatively higher hours spent on reported objectives compared to cell values across all three programs whereas the lighter color represents low average hours spent on coaching objectives. The site note avg. hours reported on this figure ranged from .25 hours (15 mins) to 8 hours. ECEAP represents Early Childhood Education and Assistance Program funded by Washington State for children 3 and 4.

## Findings from Qualitative Analysis

The following represents findings from four 1-hour interviews with six Early Achievers implementation partner agency professionals. The research asked following questions during the semi-structured interview:

* After reading the WELS data gallery (the participants had a chance to review the visual presented on Figure 2 & 3), what are your general thoughts on data captured in the WELS system?
* Does the current system (QRIS in general and WELS) capture it’s intended outcomes based on your perspectives, beliefs, and coaching practices that you have observed from the field?
* If you had a magic wand, in the next 3-5 years, what suggestions do you have to the state QRIS regarding collecting and managing coaching-relevant information?

Table 3 describes the overall characteristics of the research participants.

**Table 3.**

*Demographic characteristics of interview participants (N=6)*

|  |  |
| --- | --- |
| ***Participant characteristics*** | ***n (%)*** |
| Race/Ethnicity |  |
| Caucasian / non - Hispanic | 6 (100%) |
| Avg. years of experience in the current position |  |
| 1 - 2 years | 3 (50%) |
| 3 - 5 years | 2 (33.3%) |
| 5+ years | 1 (16.7%) |
| Avg. years of experience in the early learning system |  |
| 20 + years | 6 (100%) |
| Employer – QRIS Implementation partner |  |
| Child Care Aware of Washington | 2 (33.3%) |
| Cultivate Learning | 2 (33.3%) |
| Dept. of Children, Youth, and Families -  ECEAP | 2 (33.3%) |
| Current role |  |
| Trainer/Evaluation specialist | 2 (33.3%) |
| Agency administrator/manager  (Coach support) | 4 (66.7%) |

*Note.* Participant A, B, E, F: Administrator; Participant C, D: Trainer/evaluation specialist.

### Theme 1: Perspectives from system-level lenses: Early Achievers & WELS database system does not highlight the values coaches bring to the system

Majority of the participants shared several concerns and thoughts for the Washington Quality Rating Improvement System (QRIS) – Early Achievers. Some of them commented explicitly around what is the intent of the current system:

*“…How much data captured on WELS is eventually translating to relationship? I get the feeling from the state that what the wants are about how we measure providers' quality and journey and how the score is moving and as I'm involved with the WA Compass [the new database launching July 2021] meeting... I'm on a fly while in that meeting [WA Compass meeting] yet I really don't think it's [WELS & Early Achievers] been designed to intent on acknowledging celebrating coaching perspectives and achievements” - Participant A on April 20, 2021.*

*“I get the information, I do. It [the system] is all driven by funding and it is all focused on "child outcomes" and "provider focused.” Although there’s a factor and impact around coaching, the impression is "yeah yeah yeah coaching drives that [child-level outcomes] but we don't want to hear more about it [coaching]" - Participant B on April 20, 2021.*

*“Even if you have a theory of change in this design the way you described Min [the researcher described the current theory of change from Early Achievers to the participant], everything in that has to have its own logic model if there's an outcome, so if you have a lot of outcomes in that conceptual framework, then you have to have a logic model for those outcomes, so that you can identify the activities that are going to lead to whatever that outcome is so. These are, I would say, probably like short most of the things in this list or short or medium-term outcomes, but that you still need a logic model to understand how coach is going to get to those. The theory of change, you need that but, once you have that you still you still need to identify the steps in that, which is what the logic model would do” – Participant D on April 27, 2021.*

Other concerns around the state database system (WELS) have also arose during our conversations after all participants had moments to read and reflect descriptive information represented from Figure 1, Figure 2, and Figure 3 from the quantitative sequence:

*“I'm not surprised that this year, looking at 2021, and centers. I guess I'm looking at centers… when I look at all three (FCC, CC, & ECEAP) and then I see a ECEAP is very lightly colored. I'm not surprised by this information. I think majority of focus has been placed on those first. You know the first, third of the list of options there for the [coaching] objectives [i.e. Correspondence, Other, and Data Input] … I'm a little surprised, I guess, looking at the ECEAP that there's not more purple, at least in the 2017 to 19 time frame. I'm not surprised for the last two years, because with the anticipation of WACompass [new statewide database expected to launch July 2021], and then the delays and whatnot we kind of backed off on our expectations in that area [of entering coaching activities in the state database system]” – Participant E on April 28, 2021.*

*“Thinking about what comes out from Notes [data visual] is interesting to think about… Data entry is the bane of their [coach] existence yet the form and the system is not conducive… It's [WELS] not really capturing the partnership, relationship, etc” – Participant A & B on April 20, 2021.*

There was only one participant who commented on the fit of the system, yet I thought this summed up what is currently happening how different coaching system and data system are reflected in Early Achievers.

*“The coaching system that we created in our state.* *So Early Achievers was created for childcare and family home providers and ECEAP was brought in afterwards and It was never quite the right fit. I know there's some people who say, you know that it was a great fit, but ECEAP providers did not think that, and so it immediately created a contentious relationship and it created a mentality that pitted… The organizations that were supporting coaches in in some ways inadvertently, I think, put them in opposition to each other when they didn't need to be. And it created that us [ECEAP] and them [CCA of WA] mentality of kept things as it is and there was judgment that resulted in on both sides of what Child Care Aware staff and coaches and regional staff thought about ECEAP sites and then also what ECEAP sites and directors and team thought about Child Care Aware. I think it shows the bifurcated system that we're trying to change” – Participant F on May 12, 2021.*

Majority of the concerns and comments above reflected the infrastructure challenges around multiple standards and recommendations not aligning with each other as those were organized primarily by individual sectors based on the entity level which resulted in uncoordinated system across all parties of the Early Achievers system (Tout et al., 2011).

### Theme 2: Perspectives from agency-level lenses: We all have different philosophies, approaches, and goals in the system.

Like the system level perspectives, the perspectives from agency-level lenses were not too different. For some programs, often coaches have multiple roles that diverge their effort to only focus on coaching activities:

*“I think the challenge in the ECEAP. It's different is that coaches in ECEAP [compared to coaches in CCA] often have multiple roles. We (DCYF ECEAP) require every contractor to have access to at least one coach to support the Early Achievers process. But those coaches are often someone who was already an education manager or some sort of management level staff person in their program and it might even be the director so at some of our programs, the director is also the coach. So, it varies widely based on the size of the program and just their internal structure of what that coach does that they do much more than Early Achievers Coaching. They do that and other duties so, I think that's where some of the complexity lies within coaching in ECEAP.” – Participant E on April 28, 2021.*

Some participants mentioned that their agency have implemented other types of coaching approaches that are different than the statewide Practice-based Coaching framework due to the issue of coach caseload:

*“As I step back from this a little bit from ECEAP v. CCA coach and caseloads, CFT - coach framework training if you really implement that to fidelity, you should only work with eight to ten providers. That is only one coaching approach of many. CCA has adopted transformational coaching and worked with Constant Hine (External consultant – GROOMER framework) hired her to work internally to work with coaches; We have also adopted facilitated book study by bright morning in the past year and coaching for equity with the coaching system” – Participant B on April 20, 2021.*

*“…Because coaches are trained in so many different methods that's a good thing, different approaches that's a really good thing but there's no - to my knowledge - no graphic or anything that points to when you would use this approach to coaching in in this situation. And when you might practice based coaching in another situation or instructional co-active and that. So, the coaches try to use the approach that they are most comfortable with or the one they understand the most. But it is not necessarily the most effective approach for the goal that they're trying to reach”- Participant D on April 27, 2021*

*“Yeah. I'm glad you brought that up ‘Participant D’ because that makes me think that it's also about individualized and with their clients right with the teachers and providers, and so what’s most appropriate approach or relevant approach for this particular client rather than everybody fits into this little box of practice-based coaching – Participant C on April 27, 2021 responding to Participant D’s comment.*

If I reflect some of the literature around coaching in the past that have conceptualized or shown successful implementation of a strategy (Bush, 1984; Eckman, 2003; Fox et al., 2011; Gottman, 2001; Knight 2007; Joyce & Showers, 1982; Prochaska et al., 1994), these all included sets of expectations, frameworks, and controlled caseloads that are feasible and manageable from coaches to intervene at a site level. I also believe the participants have commented the issue of “alignment” (Halle et al., 2013) as reflected by some of the participants that the QRIS was implemented on top of the currently established layers of system, which makes it harder for professionals from oversight and administration agencies (Metz & Bartley, 2012) to align with the agency level policies to the expectations from QRIS.

### Theme 3: Perspectives from practice-level lenses: We have seen coaches made progress through this complex system – and we have seen some positive changes.

Despite the complex system in the Early Achievers and its coaching system, participants have demonstrated successful cases of how coaching brought lights to the clients from multiple examples:

*“This past year has been very difficult for coaches. Their providers are crying, worried about losing their business, and juggling this. Everyone is focused on COVID-19, they don’t care about Early Achievers revision. I have someone who’s ready to go, but we don’t have information to give away what’s happening with the revision.” – Participant B on April 20, 2021*

*“But then, we became the amazon drivers and deliver toilet papers, deliver masks, etc. I’ve heard coaches were saying “I miss coaching” but this is coaching. If you meet the needs of providers today, that is coaching - that is not Early Achieves coaching, but we’re still coaching. You’re checking in emotional well-being of people and what is needed today… Prior to the pandemic. when I come to a place that I can improve and understand in this area/career/professional life day-to-day and make my day easy. The kind of support helps me recognizes ways to address what I can do differently with supportive dialogue. It's not my boss measuring my [coaching] performance with metrics and trying to celebrate and reflect what can be done did moved my personal goal a little bit… I(Coach) am your ally and it's more about "What do you want to push" and inquiring different practices? – Participant A on April 20, 2021.*

*“I've heard lots of success stories from coaches and directors breaking down the different quality standard areas; being able to. just sit down the in there; I heard from one director who was also the coach she did everything for their program of a very small in central Washington and she had weekly meetings with her staff, and they would take one piece of the CLASS [classroom teacher-child interaction observation tool] because that was an area they really wanted to focus on was the instructional support section of CLASS, and so they broke it down into small chunks and talked about a piece every week and then how they could improve their practice in the classroom setting over time. Thinking and reflecting they had peers observing each other in in classes and providing feedback and doing some in-depth work around that one piece of CLASS specifically. And, and it helped them they showed, you know growth in that area from one rating to the next” – Participant E on April 28, 2021.*

Communication was another area of strengths and challenges that participants acknowledged that provided a bit of mixed bag of results:

*“I think one of the things that we've done is maintaining that level of communication, so we really tried to keep folks informed we're constantly emailing putting reminders in our newsletter putting you know letting them know of opportunities and engaging with directors in ways we have our CQI team has monthly calls with the directors of each program and so there's opportunities to share information regularly, and I think, from a large perspective, our ECEAP contractors know like we're going to let them know if they need to pay attention to something or if there's a change coming” - Participant E on April 28, 2021.*

*“Cultivate Learning team seems to be providing a positive change on training coaches including webinars, revising training contents, etc including How to understand QRIS? How do navigate providers through journey system and other support soft skills and 30/60/90-day checklists” – Participant A on April 20, 2021.*

*“We're also in this revision [QRIS and coach system], and this is a really important piece I think CCA doesn't realize that yet because … they don't have a solid onboarding process [for coaches] in place yet [for remote modules that the system is trying to accomplish]. It's been in flux for about four years, because I think it was about four years ago, when I first started asking them. And now it's going to be critical that we have the onboarding process because to train coaches virtually, we either have to have them come to the training with certain skills in place already from onboarding or we have to provide a workbook for them to practice the things that they would have done in the past in person, which are really challenging to do virtually. I mean you have to practice what you're supposed to know how to do in your job, you have to practice that in the training. And there's just no easy way for them to practice filling out forms and stuff like that, so they either have to get that stuff before they come in the training, so we could say: Okay now, pull out your form on how to write a goal. And now you're going to practice it here, or we have to give them a workbook something like that.*

*Moving to the virtual environment around a practice and coaching practice where people need to practice that is challenging” – Participant C on April, 27, 2021.*

### Theme 4: What’s our next steps? Different ideas were presented.

All participants have commented different ideas and thoughts for what the system should focus on in terms of next steps. For those who support coaches commented there should be more equitable access to coach workforce and early childhood education workforce to continue professionalize the workforce:

*“It doesn’t help coaches (there's a support from Coach certificate) if they [system actors and policy makers] really want to professionalize coaching workforce and/or ultimately recognize other professional development than a degree. Or even ECE degree for director, make one for early learning coaches, and alternative pathways. Degrees are not something that’s considered accessible to our workforce and I don't know any other degree programs that's offered other than in English” – Participant B on April 20, 2021.*

Another thought was reported around the feasibility and intentionality around the current reporting system that there should be different approach when it comes to collecting coach activity relevant information.

*“I think the first thing that comes to my mind, is involving coaches in figuring that out so it's not top-down so it's not like ‘Okay, here we are. DCYF v. CCA decided and this is what you have to input every day or this is what you have to collect.’ Instead, asking them [coaches] what makes the most sense to you. Looking at that list [of WELS coaching documentation], it is overwhelming and it's not helping people to organize... what's the purpose like, why is this even being collected. And really figuring out, is there a better way or a different way to get data from coaches ongoing that will really be more meaningful” – Participant C on April 27, 2021.*

*“I think the biggest thing for me, from my perspective… is having one data system that everybody could input into so that we actually have a consistent and accurate coach data to begin with. Because right now, data feels very skewed towards licensed childcare and I think CCA has some great data on their coach workforce and coach needs because of the system they've implemented for tracking all of that (CCA has a dedicated data team of two professionals supporting from the network office). We need that as a state level to really get all of the demographic data, the needs the education that all of those pieces. For me that's like step one: We need to know what we have, because we don't have combined data that matches” – Participant E, April 28, 2021.*

One participant has commented an interesting idea for next steps - Train coaches similar to the system in the Public Health field:

*“My magic wand would to be to have a nurse or group of nurses from that profession, who take over the leadership of early learning in Washington state. And they apply the model that nursing uses in its profession to early learning and especially to coaching because I think nurses - nursing profession - is the closest profession, I can think of to coaching, but when we think of nurses, we think of people who are highly trained, who have multiple entry points into the profession, with a lot of different degrees, and they have to deal with people who a hierarchy in the medical profession. And they have to deal with a lot of people outside of their profession… they're connected to a lot of different things, and they have to be very aware of the context of the patients that they're dealing with. And they have to be incredibly organized to have super high executive function skills… everyone needs to think that this is a profession that should have really high standards like nursing and there's a clear pathway to each of the levels of participation” – Participant D on April 27, 2021.*

Finally, one participant mentioned there could be some venues for appreciation that uniqueness and diversifying options for programs to adopt rather than one-size-fit all approaches:

*“Well, I think it would be a system that takes into account the requirements in ECEAP that meet the Early Achievers requirements or the intention that it's a system that across the state in early learning programs with opportunities to be able to have a menu of options for them (coaches) to really be able to specialize and to be able to have their you know their unique programming and the effort that places where they put their efforts to have that be recognized. I'm really hoping that in the new system, that will be able to happen and that there will be especially for ECEAP sites to be able to self-determine the areas that they're going to focus in on” – Participant F on May 12, 2021.*

In conclusion, based on four strands of perspectives reported by six research participants, Early Achievers – particularly the system the coaching system – is facing some of the challenges identified by the systems initiatives framework in the early learning context (Blase & Fixsen, 2011; Coffman, 2007; Tout et al., 2013). Some of practical strategies to address issues reported by participants are described by Tout et al., 2013:

* Form implementation teams to provide an accountable structure to address what’s the system’s intent of professional development (i.e. coaching) strategies;
* Develop communications protocols to communicate progress and celebrate success on actions, decisions, and agreements made in the progress;
* Consider key questions and address those during each stage of the implementation cycle, and;
* Institute continuous improvement cycles by implementing the Plan Do Study Act (PDSA) cycle (DeFoe & Barnard, 2005; Deming, 1986; Shewhart, 1924) from practice level and system level.

Based on the results provided by the empirical evidence followed by the comments from system actors, careful consideration needs to be addressed for revising the statewide database that are needed for documentation of effective practices across the targets of coaching activities as well as other professional development activities such as trainings, webinars, and institutes (Tout et al., 2012). Tout et al. (2012) stated “the issues described in the PD system as is will be resolved not only by focusing on individual practitioners but also by recognizing that achieving the system to be requires changes that are implemented across all levels and targets of the systems” (p.265). As of 2020, Washington has one of the best integrated data systems among QRIS participating sites, yet majority of the focus governed by the state Education Research & Data Center are focused on gathering patterns of access or outcomes that emphasize school readiness for children who are later in the developmental trajectories in the Early Achievers programs (López et al., 2017).

# Discussions

In the final chapter of the study, I will describe the methodological aspect of the current study and reflecting topics addressed from the findings from previous literatures. The goal of the current study has been to highlight the overview of status of coaching and its workforce in the Washington Early Achievers program, the characteristics of coaching activities reported on the state database, the perspectives from Early Achievers implementation actors around the strengths and challenges of the current system, and inquiring ways for Early Achievers implementation partners to work together. To achieve above goals, I have collected quantitative data including demographics information from coach support agencies as well as coaching activity information from the statewide WELS database; and qualitative data by interviewing six Early Achievers implementation partners for intended convergence that provided validity to the empirical evidence collected from the initial quantitative sequence.

The advantages of employing the sequential explanatory mixed method design (QUAN -> qual | Creswell & Plano Clark, 2018) increase the construct validity of the findings by having multiple forms of evidence which enhances the trustworthiness of the analysis (Gorard & Taylor, 2004), reduces the bias of researcher (Smith et al., 2016), and compensate for the weakness of quantitative information of what’s happening in the system by layering how and why such information were captured among Early Achievers implementation partners.

The study also has some potential limitations. First, the information collected during the quantitative sequence are secondary data sets previously collected from other entities (i.e. CCA of WA, Cultivate Learning, or DCYF – ECEAP). The data sets were mostly self-reported assessments or reports created by Early Achievers implementation partners. Second, the interview participants recruited for the current system may not necessarily present the opinions of Early Achievers coaches. Due to the conflict of interest, strong hesitation from the coach employing agencies to conduct interview from coaches because of the current COVID-19 pandemic to solely focus coaches’ time on providing support for providers, as well as the restrictions from the IRB to permit site visit and data collection resulted in interviewing Early Achievers implementation partners providing oversight and administration rather than those who directly support teachers, childcare owners, and directors. Finally, since the intent of research question was to inquire ontological aspects of the current system, the goal of the study may prevent from focusing on specific research question. Alternative design was discussed in the initial phase of the current study (i.e. conducting a quantitative forecast/modeling study on whether coaching activities are associated QRIS outcomes) yet the research is still unclear around whether there’s an association between coaching activities and QRIS outcomes (Boller & Maxwell, 2015; Lloyd & Mollin, 2013; Smith et al., 2017; Zaslow & Tout, 2014) nor the data captured in the quantitative sequence was not sufficient to inquire questions around association or causality. Nevertheless, the current study attempted to use the quantitative to highlight trends of population level coaching activities that are observed from the statewide early learning database (WELS) which validated some of the findings found from other QRIS researchers (Smith et al., 2012; Keller, 2017; Zeng, 2017; Zaslow et al., 2011).

As I articulate and reflect on the findings of the current study and the history of Early Achievers, data collection and building a data system that works for all implementation agencies and partners seemed to be soaring over the years of as Early Achievers was in place for more than a decade. One of the last manuals that articulated process for Early Achievers coaches for data entry and step-by-step guidelines were designed in 2015 and in fact, there seems to be lack of revision, update, nor discussion around what information of coaching activities, demographics, or characteristics could be captured under the current or for renewed system. Since the introduction No Child Left Behind requirements (Stipek, 2006; Marsh et al., 2006), the needs for addressing data-driven decision-making processes have increased over time (Gullo, 2013); however, there’s a lack of practical guidelines around how to create such database. It seems researchers agree that having such process (i.e. data management) enables early childhood education professionals and stakeholders to make decisions based on the needs described on data (Gischalar et al., 2019); yet from the current Early Achievers theory of change and model (Goodvin et al., 2019; Soderberg et al., 2016; Zellman & Fiene, 2012), it is still unclear how these data-driven decision making processes play its role when it comes to supporting coaches, coaches making decision on what coaching practices needed to be implemented from a client’s perspective, or what are considered effective/feasible coaching strategies based on the data captured from the system.

Sandall et al. (2014) shared insights on why collecting and using data in early learning settings are challenging and perhaps different than the needs currently shown by Early Achievers implementation actors around building a system-wide database to capture coaching-relevant information. Sandall et al. (2014) stated the three primary tenets of data collection in the early childhood settings by referencing the work of Wolery (2014) includes: a) to validate initial assessment information; (b) to develop a record of progress over time; and (c) to evaluate instructional effectiveness and make instructional decisions” (p.161).

Comparing with the computer science reference suggested from Luisi (2014), it seems clear that the information architecture system held by the QRIS system can be among the most difficult for the general population to understand. According to Luisi (2014) structures in information technology (i.e. WA QRIS WELS-DW) is one of the most complex architecture to understand “due to the need to intimately understand the business as well as a vast array of IT areas of specialization involving data architecture, reference data, master data, data governance, data stewardship, data discovery, data in motion, and a variety of associated disciplines that reside in operations architecture, business architecture, and the main body of enterprise architecture in the previous major section” (p.189). As the current system lack understanding nor consensus around what needs to be collected by whom, it isn’t surprising that the current system is not capturing the diverse needs and goals presented by different stakeholders. We also need to reflect the claims from Sandall et al. (2004), the nature of setting in an early childhood program often tends to be play-based which are led by child’s intrinsic motivation or open-ended play, which becomes harder to classify individual level activity into a form that’s articulated in an instructional objective. Unless there’s a specific reference category or a goal determined by a coach-coachee, it becomes extremely difficult for a data system to capture what’s intended goal of the activity.

Data management itself is challenging given the fact a teacher is likely to work with at least 15-20 children in setting. Unless there’s a dedicated time for teachers to record such progress of a child's development, it often becomes a challenge to teachers to organize, collect, record, and reflect data. This can be alleviated by having an on-site coach, yet it is rarely the case that a coach is hired by an agency (Knight et al., 2019) due to the funding/cost. This was also validated by one of the interview participants that since the coaching for their programs are “unfunded mandates by legislature,” the participant expressed extreme difficulty to follow all guidelines suggested by the state legislator and the system performance guidelines.

Especially for programs serving as an inclusion classroom or setting, the added nature of the documentation process mandated for the Individualized Education Program/Individualized Family Service Plans makes it harder for an instructional staff in a classroom setting to document such progress (Sandall et al., 2004). I also speculate that this would be particularly true to state funded programs in the state of Washington, as there are more strict performance standards and guidelines that have to be followed in each school year.

Finally, from the current study, I believe more attention is needed on how these Early Achievers implementation partners implement the notion of research-practice partnerships (RPP) (Byrk et al., 2015; Coburn et al., 2013). Coburn et al. (2013) defines research-practice partnerships as a long-term, mutually beneficial collaborations that promote the production and use of rigorous research about problems of practice that are intentionally organized, and hold promise for improving the relevance of the research produced, the use of research by organizations, and outcomes for youth. The partnerships among Child Care Aware of Washington, Cultivate Learning, and Department of Children, Youth, and Families under the umbrella of Early Achievers have at least lasted for over a decade. Henrick et al. (2017) quoted the words from Vivian Tseng (2017):

*“Research-practice partnerships can address persistent challenges by*

*producing new knowledge, building capacity, and informing action.”*

All implementation partners were engaging in research-policy-practitioner partnerships for multiple years, yet it was interesting to reflect some of the quotes from interview participants that there’s a lack of communication among implementation partners up until COVID-19 for Early Achievers process revision or the system was designed to diverge coaching networks into you v. them mentality, which made an invisible crack between partnership and rapport among partner agencies. From my reflection, the system was lacking one of the five dimensions of research-practice partnerships (Henrick et al., 2017): Supporting the partner practice organization in achieving its goals. As the current system (i.e. Early Achievers is promoting having higher quality programs) has its own goal whereas the system actors have different agency level goals (i.e. ECEAP wants to increase the subsidy slots for children serving in ECEAP programs; Cultivate Learning would like to see more practitioners using their online coaching platform *Coaching Companion*; CCA of WA wants to employ transformational coaching rather than an evidence based approach), it doesn’t seem that there’s a primary goal for RPPs to have an explicit goal “to support a practice organization’s achievement of its goals” (Henrick et al., 2017) that also reflect the goal as a system. Henrick’s group (2017) suggested these challenges can be addressed by providing research and evidence to support improvements in the partnering organization; helping RPP partners to identify and organize strategies for addressing problems of practice and informs the ongoing adjustment of improvement strategies. From all six interviews conducted for the current study, one thing that participants have mentioned was that it is their first-time reflecting coaching information from state database visuals for them to understand what’s being collected in which degree on what coaching objectives from a state-level database. Perhaps providing holistic results around what is currently captured among partner agencies creates a moment of data-driven dialogues around such practice, which then informs and helps stakeholders to be interested in and engaging in such activities for improvement. As Wellman & Lipton (2011) described, I felt fortunate that current study at least contributed to the field from having data that has no meaning to a round of inquiry, experimentation, and reflection that accelerate continuous growth and learning.

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# List of Appendices

**Appendix A. Codes for R data merge (Coach roster & training data) in RStudio**

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**Appendix C. CCA of WA Coaching Staff Information (March 2021)**

## Appendix A. Codes for R data merge (Coach roster & training data) in RStudio

---

title: "Codes for Merging Coach Data to Training Data"

author: "Min Hwangbo"

date: "4/6/2021"

output:

html\_document:

preserve\_yaml: true

toc: true

toc\_float: true

keep\_md: true

published: false

---

```{r setup, include=FALSE}

knitr::opts\_chunk$set(echo = TRUE)

```

# Step 1: Load packages

```{r}

library(readxl) # Excel file loading package

library(readr) # CSV file loading package

library(tidyverse) # Data transformation package

```

# Step 2: Loading data sets

```{r}

rosterdata <- read\_excel("Data/ECEAPCoachData\_DCYFXPPIRP\_2019-21.xlsx")

trainingdata <- read\_csv("Data/CleanRoster\_CFT\_2015-2021.csv")

# Quality check

ls(rosterdata)

ls(trainingdata)

```

# Joining data set - next steps: Create a column for "Name" as a unique primary key(s)

```{r}

df <- inner\_join(rosterdata,

trainingdata, by = "Name")

```

# Step 3: Data transformation: `Select` vars names

```{r}

dataFY1920 <- df %>%

select("Region", "Name", "E-mail", "Training\_StartDate", "Coach\_FY1920Active", "Coach\_FY2021Active", "Completion") %>%

filter(Coach\_FY1920Active == "1") %>%

filter(Completion == "1") %>%

as.data.frame()

# Data framed the 2019-20 coaches who have completed the Coach Framework Training.

dataFY2021 <- df %>%

select("Region", "Name", "E-mail", "Training\_StartDate", "Coach\_FY1920Active","Coach\_FY2021Active", "Completion") %>%

filter(Coach\_FY2021Active == "1") %>%

filter(Completion == "1") %>%

as.data.frame()

# Data framed the 2020-21 coaches who have completed the Coach Framework Training

```

## Step 3a: So... what did we find?

```{r}

count(dataFY1920) # 64 out of 140 (46%) ECEAP coaches in FY 19-20 have completed CFT

count(dataFY2021) # 82 out of 164 (50%) ECEAP coaches in FY 20-21 have completed CFT

```

## Step 3b: Filter only needed variables by `select` fcn including the following:

\* "Region"

\* "ECEAP\_Contractor\_Name"

\* "ContractorOrganizationID"

\* "First\_Name"

\* "Last\_Name"

\* "CCA\_affiliated"

\* "E-mail"

\* "Coach\_FY1920Active"

\* "Coach\_FY2021Active"

\* "Coach\_FY2021Change"

\* "Date\_ECEAPCoachTraining"

\* "Date\_UWCFT"

\* "Training\_StartDate"

```{r}

finaldf <- df %>% select("Region", "ECEAP\_Contractor\_Name", "ContractorOrganizationID", "First\_Name", "Last\_Name", "CCA\_affiliated", "E-mail", "Coach\_FY1920Active", "Coach\_FY2021Active", "Coach\_FY2021Change", "Date\_ECEAPCoachTraining", "Date\_UWCFT", "Training\_StartDate") %>% as.data.frame()

```

# Step4:: Save it as a csv file

```{r}

write.csv(finaldf, "CFTRoster\_ECEAP\_042121.csv")

```

## Appendix B. Interview questions – Coach & Coach leads

# *(adopted from California Coaching Certification Task 2 Workgroup: the current state of coaching, n.d.)*

**Overview**

1. Tell me how coaching currently works in your community.
2. What types of programs receive coaching? (e.g., centers, FCC, Head Start, public school facilities, etc)
3. Who do you usually coach? (Directors? Teachers? Teaching staff? Others?)
4. What happens in a typical coaching visit? Describe what happens when a coach visits a provider.
5. What are topics (content, focus) on which coaching is typically provided? How are these selected? (e.g., coach selects, teacher selects, director selects, co-selected based on program assessment, etc.)
6. How frequent are the coaching sessions (is it mandated or flexible)?
7. How long does a coaching session last?
8. Is the coaching session always face to face? If remote, describe
9. Do you use any forms of technology to document or facilitate coaching?
10. Does your organization provide a cultural and linguistic match between the coach and coachee? What success/challenges have you had on this?

**Coach Skills and Training**

1. What does an effective coach look like to you?
2. Do coaches have education or experience requirements? How was that decided?
3. How do you measure a coach’s skill and value?
4. How is the impact of coaching measured? (tool, frequency, etc)
5. What initial onboarding do your coaches receive? Can you share training models, agendas, etc. for coach onboarding training?
6. What ongoing training and support do your coaches receive? Can you share training models, agendas, cost, funding source, etc.?

**Lessons Learned**

1. What positive outcomes have you seen come from coaching, specifically aligned with QRIS outcomes?
2. What have been your greatest challenges with coaching as an Early Achievers coach?
3. What changes would you like to see in the next iteration of Early Achievers?
4. What are your concerns about the change in QRIS?
5. If you had a magic wand, where would you want the Early Achievers system to be in 1 year, 3 years, or 5 years? Why?

## Appendix C. CCA of WA Coaching Staff Information (March 2021)

Graphical user interface

Description automatically generated with medium confidence

Graphical user interface

Description automatically generated