

Bringing Us Together: Impacts of Learning Cohorts in Technician Onboarding

An Operational Practice prepared for SCTE by

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1. Abstract

The COVID-19 pandemic drastically shifted the landscape of work, transforming how and where employees performed their daily activities. Remote work caused many employees to report feeling a sense of isolation, and organizations have sought to proactively create a sense of community by using technologies such as group chats and video meetings to recreate traditional workplace social interactions. The adult learning experience also changed, with some organizations embracing online learning activities to replace the traditional classroom. Post-pandemic, traditional classroom-based learning has re-emerged, yet training organizations may realize benefits of continuing to use techniques and technologies employed to connect learners during remote work. This mixed method study investigated the experience of learners who were provided a structured cohort chat group (CCG) during their onboarding program and evaluated learners' self-reported satisfaction using this learning method. The study also explored these learners' overall performance and attrition rate compared against a control group of learners who were not provided access to a CCG. The findings indicate a positive relationship between the presence of a CCG and learner performance, attrition rate and overall perception of their onboarding program, suggesting potential for further inquiry into use of this method.

2. Introduction

The impact of the COVID-19 pandemic on learning and education was unprecedented. According to a policy brief from the United Nations (2020), nearly 1.6 billion learners across 190 countries were impacted by closures of schools and learning spaces, impacting 94 percent of the world's student population. Workplace learning was similarly affected, with an early estimate indicating that over one-half of all in-person learning was cancelled or postponed in the early months of the pandemic (Kshirsagar et al, 2020). For learning organizations to remain vital and continue to help learners develop critical skills, most shifted to digital learning methodologies, including virtual delivery, e-learning, videos and online discussion groups. On-the-job training (OJT) increased in 2020, with 62 percent of organizations indicating that they were emphasizing this method; and online delivery methods increased from 26 percent in 2019 to 32 percent in 2021 (ATD Research, 2021).

The learning organizations of major telecommunications operators were similarly impacted by the transition to digital delivery methods because of the pandemic. To create a collaborative and conversational learning environment while still adhering to social distancing protocols, many trainers began to employ the use of instant-messaging groups to enable team conversation amongst class cohorts. These CCGs were formed to support the formal learning experience, and many learners continued to utilize the groups post-training as a social learning space.

Social learning and learning communities have been widely researched and are considered a fundamental aspect of adult learning (Chao, 2009; Knowles, 1980, Wlodkowski & Ginsberg, 2017; Merriam et al, 2007; Kasworm et al, 2010). Connectedness and a sense of belonging is necessary to create an atmosphere for learning, and a strong sense of community within a group of learners creates an inclusive environment where learners can co-construct knowledge (Wlodkowski & Ginsberg, 2017; Lawrence, 2002; Khoo & Cowie, 2020; Abawajy, 2012; Zajac et al, 2022).

Most telecommunications operators have structured classroom training programs for onboarding frontline field technician roles that cover the core skills and knowledge needed to be successful on the job, yet some learners still struggle with learning transfer after completion of the program. When learners do not receive support after formal training completion, the effectiveness of the program may diminish. Organizations often rely upon OJT provided by more tenured or senior employees after completion of the core program, but these types of experiences can have negative consequences if the experienced

employee performs contrary to what was presented in training (Kasworm et al, 2010). Enabling a post-training support mechanism for students in the same learning cohort can help overcome this issue by empowering classmates to support each other.

Exploring the relationship between the presence of a structured online communication group used during and after the onboarding training can help workplace learning professionals identify the value of this practice. Instructional design teams can further customize the learning activity design for onboarding programs to include activities and guidance for trainers on the use of these methods. Operational leaders may not recognize the value these methods bring to the learning space, so an examination of the relationship between structured learning cohorts and post-training performance may help justify their use.

3. Literature Review

3.1. Adult Learning Theories and Practices

When asked, most employees in field technical roles would state their learning preference is hands-on, real-world, practical training; and most operational leaders would agree. How then can a chat group in an online format bring value to a learner? Why would such a tool be expected to improve on the job performance, or influence these individuals to stay with a job? An answer may be found in early concepts of andragogy and adult learning theories first explored by Knowles, who presented a series of five foundational characteristics of the adult learner, which have since been incorporated into the collective understanding of adult learning theory (see Figure 1).

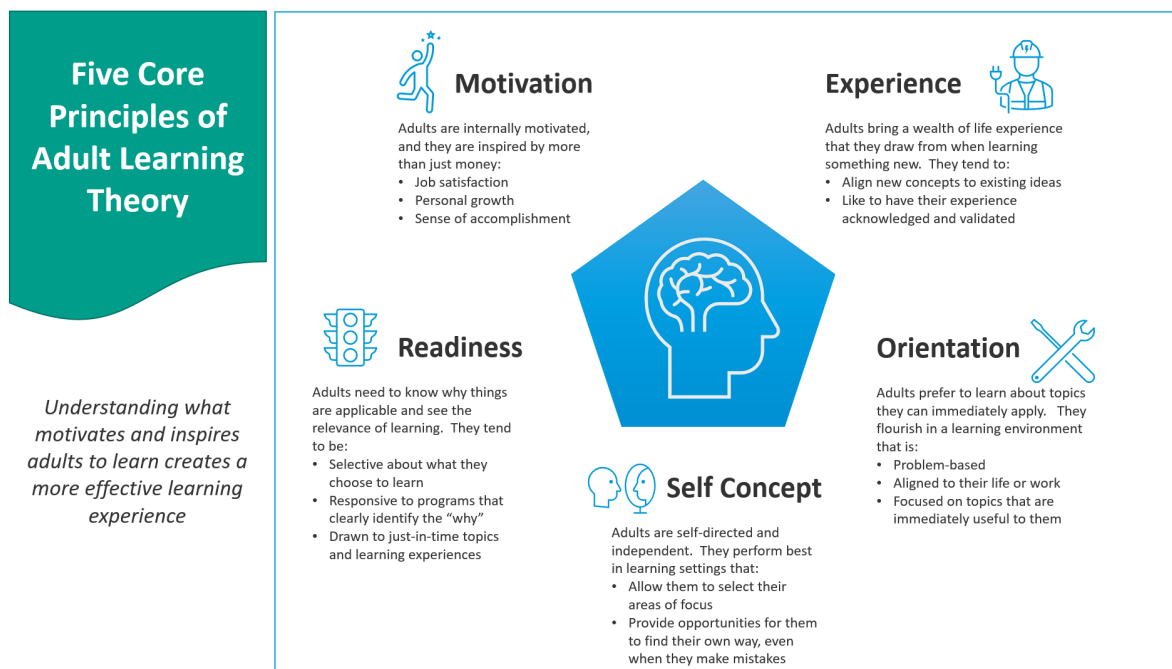


Figure 1 - Characteristics of Adult Learners

Among these principles are that adults are “problem-centered and interested in an immediate application of knowledge” (Merriam, 2001, p. 5). This concept, known as orientation, provides clear justification for why a new employee would find value in a CCG, where they can quickly connect with classmates to find answers and solve problems they encounter on the job. Learners are motivated to seek out information and utilize learning tools when they believe it will help solve a real-world problem (Wlodkowski & Ginsberg, 2017).

3.2. Learning Communities

A second theory of adult learning that aligns with this research is the concept of learning communities, which has its origins in 1927 with an experimental program at the University of Wisconsin, where students attended a series of courses together over a period of two years and functioned as an intact cohort throughout that time. Since these early forays into this learning method, the concept of learning communities has continued to develop in academic settings and is currently understood to mean any of a variety of different course structures that give learners an opportunity to deepen their understanding of the material through interacting and co-constructing meaning (Gabelnick et al, 1990). Learning communities have been found to benefit learners in a myriad of ways, including improving academic achievement, program retention and positive perception of the learning institution (Cross, 1998; Khoo & Cowie, 2020; Zajac et al, 2022). Despite the benefits of these types of programs, institutions still may struggle to effectively implement such programs, encountering challenges with low adoption rate of tools or resistance from faculty or instructors (Cross, 1998; McPherson & Nunes, 2004).

3.3. Learning Transfer

The fundamental purpose of an onboarding training program is to provide the necessary learning experience that translates into on-the-job performance. In adult learning theory, this concept is called learning transfer: the ability to put the new skills learned in the classroom environment into practice (Roumell, 2019). Foley and Kaiser (2013) define the different levels of learning transfer, including near and far, positive and negative, and high- and low-road transfer, and explore the concept of scaffolding. Scaffolding is a learning concept that provides learners structured tools to enable them to construct their learning. This aligns with the CCG, in that the learner is empowered to work with classmates to construct their own learning experience while still receiving support and guidance (scaffolding) throughout the learning process.

One of the challenges of workplace learning is ensuring that what was learned in the formal classroom environment can be transferred back to the job, and often the design of the program does little to ensure that far transfer occurs after the structured learning. Facilitators often do not have an opportunity to create structure beyond the classroom, and the skills fail to transfer to the real-world environment (Roumell, 2019). Roumell also suggests a key technique to overcoming the challenges of far transfer is to create an environment where learners can engage in “solution-seeking discourse” with classmates in order to deepen their understanding of concepts (p. 20).

3.4. Conclusions

Existing research provides insights into methods that can be used to help ensure that skills and knowledge transfer back to the job. Core adult learning theories on problem-orientation and learning communities have a long history, and more recent works support the value of social learning and highlight some of the challenges with its implementation. Beyond the theoretical considerations, current research describing

training methods or practices provides additional perspective, but there is still a gap in the collective body of work. Specifically, most research has been done in the academic setting, where learning communities are used in different learner contexts. Limited research has been done relative to learning communities in the workplace. In addition, most of the exploration of learning communities does not address the virtual environment or, more specifically, the use of cohort-based chat groups.

The purpose of this study is to examine the relationship between the presence of a structured cohort-based learning technology during the onboarding program, and learners' self-reported satisfaction, overall performance and attrition rate. To do so, we pose the following questions:

- Does the presence or absence of a cohort-based learning technology solution impact learners attending field technician onboarding after completion of the course?
 - What are the learner impressions of the use of this technology?
 - What is the relationship to attrition after course completion?
 - What is the relationship to overall job performance (i.e., scorecard)?

4. Research Methods

As detailed in the literature review, there is a lack of current research that directly addresses the topic of CCGs in workplace learning. To investigate the impact of this type of technology on the learner experience, an open-ended qualitative inquiry was needed. This provides an opportunity to better understand the attitudes of learners who experienced the use of a CCG during training. Qualitative study enables insight into the human experience and perspective, which is a foundational element of what this research sought to identify (Creswell, 2013). To provide additional insights into the potential effectiveness of CCGs, quantitative data related to employee retention and job performance was also investigated. Quantitative data provides a more concrete picture of impacts to job performance, helping to validate whether organizations should seek to invest resources in CCGs.

4.1. Participants

The participants in the qualitative portion of the study were frontline field technicians in a large telecommunications organization who completed their onboarding program in the first quarter of 2023. These employees attended a multi-week course that blended online asynchronous coursework with hands-on instructor-led activities. The course provided training on technical topics (e.g., installation and troubleshooting practices), safety topics (e.g., electrical safety and ladder handling) and customer service and support skills.

These individuals were a diverse group of males and females in various locations across the 41 states in which the company operates, with a wide range of ages. Since this study is being performed in a workplace setting where age, gender and race are considered sensitive data, participants were not asked to provide this specific demographic information as part of the study.

Table 1 - Population Data – Total Headcount by Job Title

Month Hired	Total Count
January 2023	571
February 2023	478
March 2023	542
	1591

The total population of employees in the field technician role who were hired and attended their onboarding program in the first quarter of 2023 is 1591 (see Table 1). Because this research seeks to explore perceptions of learners who experienced an online cohort group during their onboarding period, the concept sampling method was used. This method allows for intentional selection of study participants to gain a deeper understanding of the specific topic being researched (Creswell, 2003; Creswell & Guetterman, 2019).

Two geographic regions were selected to participate in this study. One was selected because of its status as the only area in which a CCG was used throughout the first quarter of 2023. The second region was selected as the control since they had not implemented any structured or unstructured learning cohorts as part of the field technician onboarding program. For the purposes of this study, the region using the CCG will be labeled as Region A and the region without will be labeled as Region B. It is also important to note that the two regions selected for the study are located in the same geographic area of the United States, where participants can be assumed to have similar social demographics and attitudes.

The training managers for the two selected regions were notified via email of the study opportunity. For Region A, the training manager was given the criteria related to dates of onboarding program attendance and requirement for the existence of a CCG. Using the criteria, the manager provided data for eligible participants to be surveyed on the topic. Region B was not surveyed, since the learners in that area did not experience cohorts; instead, solely the attrition and performance data for learners attending onboarding during the same time period was used. This represents 22 percent of the total staff population that met the study criteria: hired in first quarter of 2023 in the field technician job family. Of that 22%, 12% are from Region A and 9% are from Region B (see Table 2).

Table 2 - Sample Data – Total Headcount for Selected Regions

Region	Headcount	Percent of Total
Region A	197	12.4%
Region B	150	9.4%
All Regions	1591	

4.2. Qualitative Data Collection

Study respondents from Region A were sent a cover letter which provided background on the importance and purpose of the study, as well as language that fulfilled the need for informed consent and confidentiality considerations based on examples from Creswell & Guetterman (2019). Respondents were given 10 days to complete an online survey using SurveyMonkey® after which time the survey was closed and no new responses were accepted. The survey included closed-ended Likert scale questions and one open-ended question (see Appendix B). Online surveys are an effective method for gathering impression data, since responses need not be captured via a live in-person interview requiring transcription of notes. Secondly, the group being surveyed work differing shifts and an asynchronous survey method avoids scheduling issues and delays in data gathering.

The survey began with an overall query about the participants' relative level of satisfaction with their onboarding experience, using a Likert scale to gather impressions of training material/content, trainer and training facility. This initial question was designed to help the respondents recall their impressions of the overall onboarding experience to prepare them to answer questions more specific to their experience using cohorts.

Participants were then asked whether they were provided a structured chat group via WebEx®. While it had already been confirmed that all surveyed learners were in fact provided a CCG, inclusion of this question allowed for the possibility of a learner who did not recognize or understand that such tool was being provided, which could uncover communication issues within the structured program. Subsequent questions explored learners' perceptions of the value of the chat group to their learning experience, whether they experienced technical issues and if they felt that future learners would benefit from such a tool. The survey concluded with an open-ended question seeking any other feedback on the course overall, giving an opportunity for deeper understanding of the trends from earlier questions (Creswell, 2003; Creswell & Guetterman, 2019).

4.3. Quantitative Data Collection

Quantitative data on attrition and performance for both Region A and Region B were collected from internal systems used to track employee data and performance data. To preserve anonymity of employees, all sensitive or personally identifiable information was removed from the data set prior to analysis. For employment and attrition, data were limited to employees hired during the first quarter of 2023 in the specific job title family investigated. The performance data were filtered using the same criteria. Aggregate data for all regions were prepared to enable comparison of Regions A and B, not only against one another, but also against the company-wide performance in these areas.

4.4. Qualitative Analysis

After the survey concluded, the data was exported into a spreadsheet from the survey system. Each respondent was assigned a number (e.g., Respondent 1), which was used throughout the rest of the study to notate and track that individual's response. The closed-ended questions were coded using Likert scale responses (e.g., 5 – Strongly agree, 4 – Agree, 3 – Neither agree nor disagree, 2 – Disagree, 1 – Strongly disagree) (see Appendix B for full question and answer details). Each closed-ended question also included an optional open-ended question (e.g., "Please explain"), and those responses were reviewed and coded for themes.

4.5. Quantitative Analysis

To investigate trends related to attrition (i.e., job departure), employee data was exported into a spreadsheet and all personally identifiable information was removed, leaving only the data fields for job title, hire date, departure date (if applicable) and region. This dataset was then organized using pivot tables to calculate the numbers of employees hired during the specific period and those who were still currently employed at the time of the research. The number of employees from the sample who departed the company was converted into a percentage, indicating an attrition rate.

For performance data, individual employee scores relative to the standard company scorecard were used. The standard scorecard for this job family uses multiple discrete performance measures (e.g., quality, productivity) that are combined into a tiered 1-5 overall score. Employee performance scores were calculated for each of the two regions considered in this study, and an aggregate company-wide comparison score was also prepared.

5. Results

5.1. Qualitative Survey

Average time to complete the survey was three minutes and nineteen seconds; the longest time was five minutes and thirty-nine seconds for Respondent 3; and the shortest time was one minute and thirty seconds for Respondent 2. Of the 40 participants invited to complete the survey, five responded, for an overall response rate of 12.5%. All respondents indicated that they were provided a structured chat group via WebEx®.

Participants were asked to provide overall feedback on their experience in their onboarding course, using a Likert scale (5 – Very Satisfied, 4 – Satisfied, 3 – Neutral, 2 – Somewhat Satisfied, 1 – Not Satisfied) in the categories of training material and content, trainer, training facility and classmates. The mean score across all categories was 4.55, with the highest categories tied at 4.6 between trainer, training facility and classmates (see Table 4).

Table 3 – Summary of Responses – Question 1

Question Text: Consider the experience of your Field Technician Onboarding program as a whole. Please provide your feedback on the aspects of the program listed here.				
Respondent ID	Training Material and Content	Trainer	Training Facility	Classmates
5	5	5	5	5
4	5	5	5	5
3	4	4	4	5
2	4	5	5	4
1	4	4	4	4
	4.4	4.6	4.6	4.6
				4.55

Question 3 asked the participants to indicate their perception of the value of the structured group chat (CCG). The mean response was 4.6, with three participants responding “Extremely valuable” and the remaining two responding “Somewhat valuable.” Respondent 4 provided a comment in the open-ended field for question 3, stating, “Everyone has a different experience in the ride along portion of training and sharing those individual experiences with class mates (sic) has taught me about things I didn't get that chance to see in person.”

In question 4, participants were asked to consider their experience using the CCG and indicated their perception of the importance of factors including staying connected to classmates during and after class, asking questions of classmates or trainer and feeling part of a learning community. The mean score for all categories was 4.32, with “asking questions of the trainer” the lowest at 3.8 and “feeling part of a learning community” the highest at 4.6 (see Table 4). Respondents 4 and 2 both indicated a greater importance on staying connected to classmates after class, while Respondent 1 rated usage after class significantly lower than during class. The lowest score in any category (2 – Somewhat important) was from Respondent 3, in relation to the value of being able to ask questions of their trainer.

Table 4 – Summary of Responses – Question 4

Question Text: Consider your experience using the chat group with your classmates. Please review the list below and indicate the level of importance to you.					
Respondent ID	Staying connected to my classmates during class	Staying connected to my classmates after class	Being able to ask questions and get answers from my classmates	Being able to ask questions and get answers from my trainer	Feeling part of a learning community
5	5	5	5	5	5
4	4	5	5	4	5
3	4	4	4	2	4
2	4	5	4	4	5
1	5	3	4	4	4
	4.4	4.4	4.4	3.8	4.6
					4.32

Question 5 sought to determine whether participants experienced any issues or problems with the chat group, including whether the group was distracting, if usage amongst classmates was limited or if there were problems with the software. All participants indicated they did not experience problems in these categories, with the exception of Respondent 3 who noted that they did experience software or connection problems but did not elaborate in the comments.

Participants were then asked whether they would recommend the group chat feature be added for future classes, which is a modified version of a promoter question. Eighty percent (or four out of five) participants indicated yes, while Respondent 3 indicated they were not sure (See Figure 2). Respondent 5 added a comment “Very helpful vreates (sic) a good work environment and needing the trainers as well for structure and conversation control.” Respondent 4 commented “Sups can get busy and it's always good to have other people to reach out to for help.”

Considering your experience with the structured chat group in your class, would you recommend this be added for future classes?

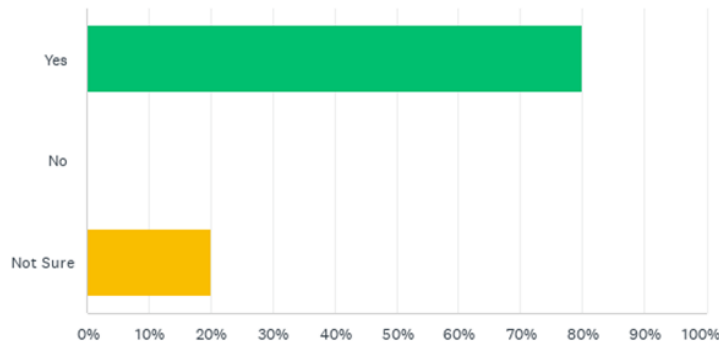


Figure 2 – Response Summary – Recommendations for Future Use

5.2. Quantitative Attrition and Performance

An attrition rate was calculated by dividing the number of former employees (those having departed the company at the time of the study) into the total number of employees hired during the first quarter of 2023, expressed as a percentage. This was separated into an aggregate score for all regions, and two individual scores for the two regions considered in this study. Region A, the region that included CCGs as part of the onboarding experience, had a 23% attrition rate for the sample group. Region B, without such groups, had a 33% attrition rate, or 10 percentage points higher loss of employees for this same time period and group. Comparatively, the overall aggregate rate for the full sample of all regions was 25%, meaning Region A outperformed the overall company score by 2% (see Table 5).

Table 5 – Summary of Attrition Rates

	Current	Former	Grand Total	Attrition Rate
Region A	151	46	197	23%
Region B	100	50	150	33%
All Regions (Aggregate)	1188	403	1591	25%

Performance data were compiled using standard scorecard measures, which uses a tiered 1-5 scoring system for employee performance. This was separated into an aggregate score that included performance data for individuals in all regions, and two individual scores for the two regions considered in this study. Region A, the region using CCGs during the onboarding program, had an average of 3.0 for employees in the sample group, while Region B had an average of 2.9 (Table 6). Similar to the findings in the attrition data, Region A not only outperformed the control (Region B), but also outperformed the aggregate score for all regions.

Table 6 – Summary of Scorecard Averages

Region	Scorecard Average
Region A	3.0
Region B	2.9
All Regions	2.9

6. Discussion

A clear pattern of favorability emerged from the qualitative survey responses, with the overall mean of all questions scoring greater than 4. Cross (1998) indicates the greatest value in the learning community is that students have the ability to connect with their classmates and foster a strong sense of connection. Respondents to the study indicated the greatest value in their ability to connect with classmates, both during and after the formal classroom period. Respondents also indicated that feeling part of a learning community was even more valuable than being able to get answers from their trainer. These responses align to the concepts and ideas found in the literature, and specifically with findings of the efficacy of learning communities in academia, where learners indicate a more positive opinion of their learning institution and program overall when provided with this type of support (Khoo & Cowie, 2020; Zajac et al, 2022). The quantitative data also indicates that the presence of a CCG could have a positive relationship to attrition rates, with Region A significantly outperforming not only the control region considered in the research, but also the aggregate score for the company-wide sample. The literature indicates when learning communities are used in academic settings, learners are more likely to stay in their program of study and less likely to drop out (Price, 2005).

Roumell (2019) suggests learning professionals must create structure in the post-training environment in order to facilitate effective learning transfer, and the positive impact to the scorecard of learners in Region A may be a result of their structured CCG. While the difference between Region A and Region B is comparatively much smaller than the attrition rate, it still does indicate a possible positive relationship. This performance improvement is also supported by research, where learners in academic settings who have this type of community with their classmates consistently demonstrate higher grades and overall academic performance (Zajac et al, 2022).

6.1. Study Limitations

There are at least two potential limitations related to the scope of this research. A first limitation relates to the number of respondents to the survey, which represents only a small sample of the overall population of employees in the job role. Intentional selection of a smaller sample of learners who were known to have experienced a structured chat group cohort provided greater understanding of the central phenomenon, but surveying a larger group, including both those who have and have not experienced this type of tool, could uncover additional perspectives. A second potential limitation relates to the respondents of the survey, and the selection of only learners. By using the concept of triangulation and gaining perspectives from different sources (e.g., supervisors or trainers), the validity of the data analysis could be improved.

Despite these limitations, the results suggest both a learner preference for the inclusion of this type of structured learner cohort using chat groups, and a potential positive impact on both performance and attrition rate. The implication to organizations who provide onboarding training is that the presence of this type of tool can help create durable learning experiences that improve trainees' confidence post-training and increase their desire to stay with the organization.

6.2. Future Research

Although the findings of this particular study support the value of structured learning cohorts in the field technician onboarding space, the most important contribution may be that it raises awareness of this instructional method and creates an opportunity for further inquiry. If, as this study suggests, the use of a CCG improves learner performance, attrition and overall experience of onboarding, organizations would be wise to consider incorporating such methods. A recommendation for future studies would be to broaden the inquiry to a larger group of participants and consider investigating the experience of employees beyond the field technician role. Learning organizations seeking to implement such measures will need to prepare a clear and compelling business justification in order to obtain support from business leaders; and further research by learning professionals will be critical to help guide future use of these methods.

7. Conclusion

The findings of this research indicate that learner experience during onboarding is positively impacted by the presence of a structured learning cohort using chat groups, and that performance and employee retention may be positively influenced as well. Concepts from the literature, including orientation, learning transfer and learning communities, were identified in the participant responses, and quantitative performance and attrition data align with existing research in academic settings. Although future study will be needed to further explore this topic, the present study has enhanced the understanding of the relationship between structured learning cohorts in onboarding and provided clear support for the value of this instructional method.

Abbreviations

CCG	Cohort chat group
OJT	On-the-job training
ATD	Association for Talent Development

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8. Appendices

8.1. Appendix A: Cover Letter with Informed Consent

As a Field Technician, you have valuable insights on the methods used during training to connect classmates with real-time convenience.

We are conducting a research study to investigate whether having a group WebEx® chat with classmates has a positive or negative impact on the learning experience.

To gather data on this topic, I am using an online survey in SurveyMonkey®, and your leadership recommended you as a great candidate to provide your perspective on this! Your participation in this research is, of course, completely voluntary. Responses to the survey are totally anonymous and will not be linked back to you directly.

If you choose to participate in the survey, simply use the link below to access and provide your responses. The survey should take about 5-10 minutes to complete, and you can candidly provide as much detail as you feel appropriate. The survey will be available for completion through Monday, July 24th, after which it will be closed.

[Click here to access survey.](#)

Should you have any questions about the study, the survey, or the research in general - please feel free to contact me and I would be happy to provide additional information!

Thank you for your time and consideration!

8.2. Appendix B: Survey Questions

Question #	Question Text	Answer Options
1	<p>Consider the experience of your Field Technician Onboarding program as a whole. Please provide your feedback on the aspects of the program listed here.</p> <ul style="list-style-type: none"> • Training Material and Content • Trainer • Training Facility • Classmates 	<p>5 - Very Satisfied</p> <p>4 – Satisfied</p> <p>3- Neutral</p> <p>2 - Somewhat Satisfied</p> <p>1 - Not Satisfied</p>

2	As part of the onboarding experience, were you provided a structured new hire chat group with your classmates via WebEx®?	2 – Yes 1 - No
3	You indicated that you WERE provided a structured new hire chat group with your classmates. Please rate your opinion on how helpful/useful you found this.	5 - Extremely valuable 4 - Very valuable 3 - Somewhat valuable 2 - Not so valuable 1 - Not valuable at all
4	Consider your experience using the chat group with your classmates. Please review the list below and indicate the level of importance to you. <ul style="list-style-type: none"> • Staying connected to my classmates during class • Staying connected to my classmates after class • Being able to ask questions and get answers from my classmates • Being able to ask questions and get answers from my trainer • Feeling part of a learning community 	5 - Extremely important 4 – Important 3 – Neutral 2 - Somewhat important 1 - Not important at all
5	Did you experience any of the following problems or issues with the chat group? Please provide feedback on each item. <ul style="list-style-type: none"> • Software or connection problems • Chat messages were distracting to me • Could not get the answers I needed in a timely fashion • Little or no use of the chat group by classmates 	2- Yes 1 - No
6	Considering your experience with the structured chat group in your class, would you recommend this be added for future classes?	2 – Yes 1 – No 0 - Not sure
7	Considering your training experience as a whole, are there any suggestions/recommendations you have to improve the experience for others? Please provide as much detail as you like.	Open-ended