

Driving Employee Performance: Exploring Training Impacts Through Business Metrics

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1. Introduction

Workforce and talent development have increasingly become a focus for organizations of all sizes. The great resignation in the wake of the COVID-19 pandemic caused many organizations to reevaluate their approach to employee development programs, as they sought to retain and attract the talent that is critical to organizational success. Despite this, according to a 2022 study by Accenture, only 62% of executives have a clear vision on how to develop their workforce in the post-pandemic economy (Smith et al). Training is almost always included in organizational talent development strategies, yet many training organizations often struggle to quantify their value and impact in a way that aligns with business metrics.

The telecommunications industry relies on complex data models and sophisticated analyses to identify successful performance at both an individual, team and organizational level. Scorecards, dashboards and metrics are at the top of most leaders' inboxes, yet we often struggle to create meaningful measures of the learning experiences that are critical to employee and business success. This is by no means a new challenge, and the measurement of training has been explored extensively with mixed results in implementation. This study will examine a performance dashboard in use by a major operator that combines employee performance data and training data, and seek to identify whether the data provides the desired business impact to learning and operational leaders.

2. Literature Review

2.1. Transfer of Learning

Training and instructional design professionals are tasked with creating learning experiences that meaningfully present concepts and skills that transfer into on-the-job performance. The transaction is much more complicated than simply covering content – successful learning transactions create learning transfer. Learning transfer is commonly understood to mean the ability for the learner to transfer the skills and knowledge from the classroom back to the job (Foley & Kaiser, 2013; Broad, 1992; Illeris, 2009; Kirkpatrick, 2005, Roumell, 2019).

Haskell (2001) provides a taxonomy of learning transfer that seeks to clarify the progressive levels of transfer, while Illeris (2009) and Thomas (2007) provide insights into challenges and barriers to the transfer process. This includes issues such as gaps in foundational knowledge or context, lack of support post-training and challenges with the reality of the training environment.

The relevance and authenticity of the training environment is directly linked to the success of the learning transaction, and is aligned to the concepts of near and far transfer. If the learning experience is very close to the experience the learner will have during their real-world application of the new concepts, it is less challenging for them to transfer the skills, and is referred to as near transfer. Conversely, far transfer refers to situations where the classroom learning experience is similar but not exactly the same as what the learner will experience back on the job, thus requiring the learner to perform more of a stretch to transfer the skills and knowledge (Foley & Kaiser, 2013; Detterman, 1993; Hung, 2013; Schunk, 2004).

One of the challenges of workplace learning is ensuring that what was learned in the formal classroom environment can be effectively transferred back to the job, and in many cases, the design of the program does little to measure the transfer. Facilitators often do not have an opportunity to create structure beyond the classroom, and learners struggle to transfer classroom-based skills to the real-world environment (Roumell, 2019).

2.2. Evaluation of Training Programs

In order to validate that the transfer of learning has occurred, performance on the job must be effectively monitored, measured and aligned to business performance (Kirkpatrick & Kirkpatrick, 2006; Cross, 2007, Phillips & Stone, 2002). The standard model for evaluating training programs and measuring the success of training was first proposed by Kirkpatrick, and includes four levels that outline the lens through which learning experiences can be evaluated (see Table 1).

Level 1, or reaction, gives critical insight into the learners’ overall satisfaction with the course and thus their motivation to learn. This data is typically collected at the conclusion of the course, either via online methods or printed surveys, and is often referred to by the tongue-in-cheek term, “smile sheets.”

Level 2, or learning, validates whether the learners received the intended skills or knowledge from the classroom experience. It is often gauged by testing and performance assessments, which are typically administered at the conclusion of the course.

Level 3, or behavior, seeks to determine if the learner is displaying the behavior back on the job, and typically this information is obtained through direct observation of on-the-job behaviors. Kirkpatrick & Kirkpatrick (2006) note that since this can be a significant time investment, it can be appropriate to forgo using this evaluation level if the time investment outweighs the anticipated benefit.

Level 4, or results, indicates the degree to which targeted outcomes occur as a result of the training, and is sometimes referred to as “business impact.” This level of evaluation, although the one most important and meaningful to operational leaders, is often the most under-reported and infrequently presented by learning organizations.

Table 1 - Kirkpatrick’s Levels of Evaluation

Level	Name	Examples
Level 1	Reaction	Post-class surveys, typically distributed immediately after (or during) the class
Level 2	Learning	Activities/assessments during class (formative) Exams or knowledge checks (summative)
Level 3	Behavior	Post-class surveys (90 days) Observation of work (supervisor or peer) Reinforcement modules/refreshers
Level 4	Results	Business and human resources metrics Testimonials from participants or leaders

2.3. Conclusions

Existing research provides insights into methods that can be used to help ensure that skills and knowledge transfer back to the job. Learning transfer theories and practices have a long history, and more recent works continue to explore methods by which training organizations can ensure that the transfer of learning occurs.

While the Kirkpatrick model offers a clear framework for providing meaningful measurements of training results, most training organizations primarily measure and report on Level 1, which merely describes whether the learner enjoyed the experience. This does not provide the necessary level of accountability and tracking needed in today’s data-driven workplaces. Training leaders may perceive that it is too challenging to correlate, and that there are many other causal factors beyond their control (Phillips & Stone, 2002; Kirkpatrick & Kirkpatrick, 2006). While research in these areas presents examples of

businesses using the higher levels of the Kirkpatrick model, there is a gap in the body of work relative to its use in telecommunications.

The purpose of this study is to explore the use of a standardized training report card (TRC) and determine whether such use results in improved performance of learners and trainers. To do so, we pose the following questions:

- Does the use of a standardized training report card impact learners attending field technician onboarding after completion of the course?
 - What are the impacts to learner Level 1 reaction scores?
 - What is the relationship to overall job performance (i.e., scorecard)?

3. Research Methods

As detailed in the literature review, although it is universally recognized that transfer of learning to results is key to any training program, organizations often struggle to conclusively link training results to business results. To investigate the impact and potential of this type of analysis, quantitative data related to employee job performance was investigated. Quantitative data provides a more concrete picture of impacts to job performance, helping to validate whether organizations should seek to invest resources into this type of tool. To allow for greater analysis, the research also includes a qualitative component (Level 1) to obtain learner reactions to the training program. Qualitative study enables insight into the human experience and perspective, which is a foundational element of what this research sought to identify (Creswell, 2013).

The participants in the qualitative portion of the study were frontline field technicians in a large telecommunications organization who completed their onboarding program between April 2023 and March 2024. 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. One geographic region was selected to participate in this study. This region was selected because the training leadership in this region consistently used the TRC throughout the specified time period to drive performance within the training teams, and regularly provided updates on the data from the TRC to both training team members and operational leaders. Additionally, this region used a customized survey to obtain Level 1 participant impressions, enabling deeper analysis of the qualitative aspect of the survey.

For the purposes of this study, the region being analyzed will be labeled as Region A and all other non-participating regions will be aggregated into a single comparative score noted as Enterprise.

3.1. Qualitative Data Collection

Study respondents from Region A were sent a link to a SurveyMonkey® survey via email as part of their onboarding program. The onboarding program is structured with two weeks in the classroom, then two weeks in the field with a mentor. This pattern is repeated three times, for a total of six weeks in the classroom and six weeks in the field. Trainees in the program were surveyed at three points during the program, at the conclusion of weeks two, six and ten. The survey included a question that allowed the trainee to indicate their progress in the class, enabling training leadership to make real-time changes to the program if issues were identified.

The survey included closed-ended Likert scale questions and participants accessed the survey via classroom computers or their mobile devices. 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.

The survey began with a question to gather participants' impressions on whether the training aligned closely to real world scenarios. Participants were then asked whether they felt the training program increased their ability to perform their job, and how they would rate their overall satisfaction of the program. To gather these impressions, the questions used a Likert scale of 5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree.

3.2. Qualitative Analysis

The data from the survey period was exported into a spreadsheet from the survey system. No individual user responses were considered and all responses were aggregated to identify larger themes. The questions were coded using Likert scale responses. No additional open-ended responses were considered for the purposes of this study.

3.3. Quantitative Data Collection

Quantitative performance data was captured in a customized dashboard created in the MicroStrategy business intelligence platform (see Figure 1). This dashboard, called the Training Report Card (TRC), combines data relative to the standard scorecard used to measure individual technician performance and training data from the business learning management system (LMS).

The TRC uses completed course data from the LMS, and links trainee transcript data to scorecard performance for a period of 12 months post-completion of the Field Technician Onboarding (FTO) course. For this study, we considered the performance of trainees obtained between zero to six months after completing the onboarding course.

The TRC organizes the data through multiple filter options, enabling operational and training leaders to select views such as Instructor, Management Area or Regional View, and apply filters such as Employee Tenure, Active Employee and Primary Trainer. For the purposes of this study, we will investigate overall scorecard tier and repeat rates.

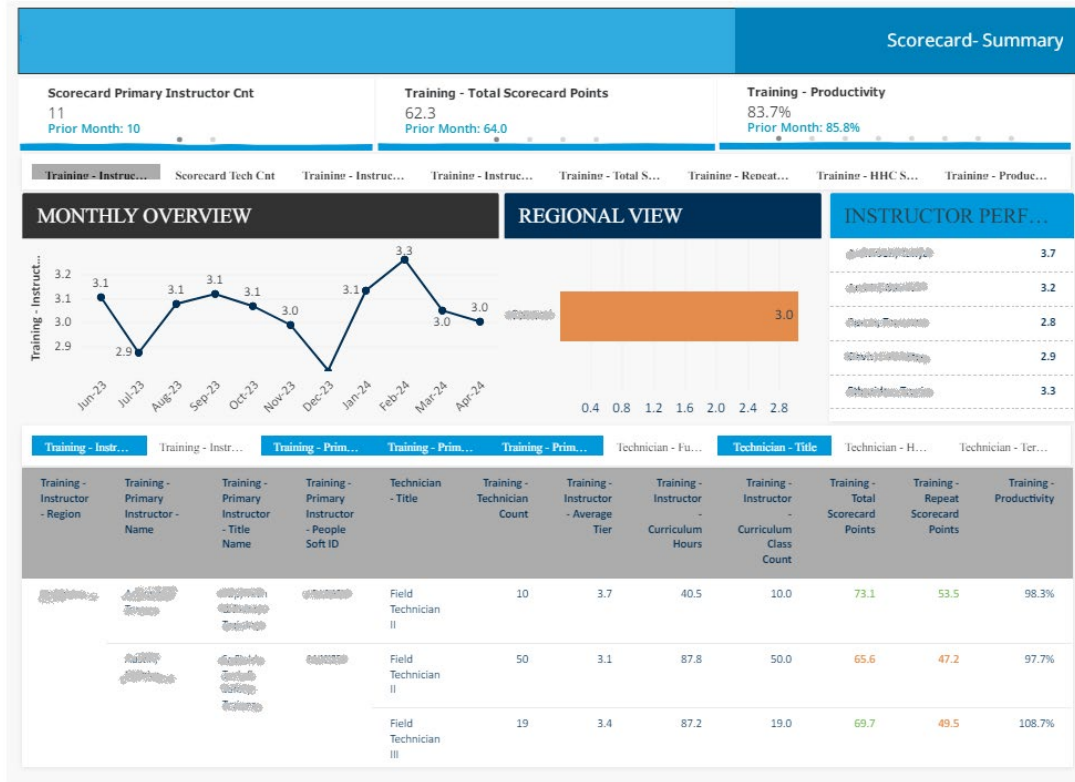


Figure 1 – Training Report Card Example View

3.4. Quantitative Analysis

The data from the survey period was filtered and exported from MicroStrategy into a spreadsheet to enable trending and analysis. Data from all geographic regions was combined into a single Enterprise score and used for comparisons against the region considered by this study, noted as Region A.

4. Results

4.1. Quantitative Metric Data

Scorecard performance was organized to enable comparison between Region A and all other regions as a group, labeled as Enterprise, on the following charts. The employees considered are solely those with zero to six months tenure at the time of the measurement, enabling the data set to reflect performance specifically relevant to their training experience. From June 2023 through September 2023, Region A and Enterprise performed similarly (see Figure 2). Starting in October 2023, Region A scorecards improved while Enterprise scorecards declined overall. From October 2023 through April 2024, Region A and Enterprise saw relatively similar growth, and Region A maintained higher scorecards overall during this period.

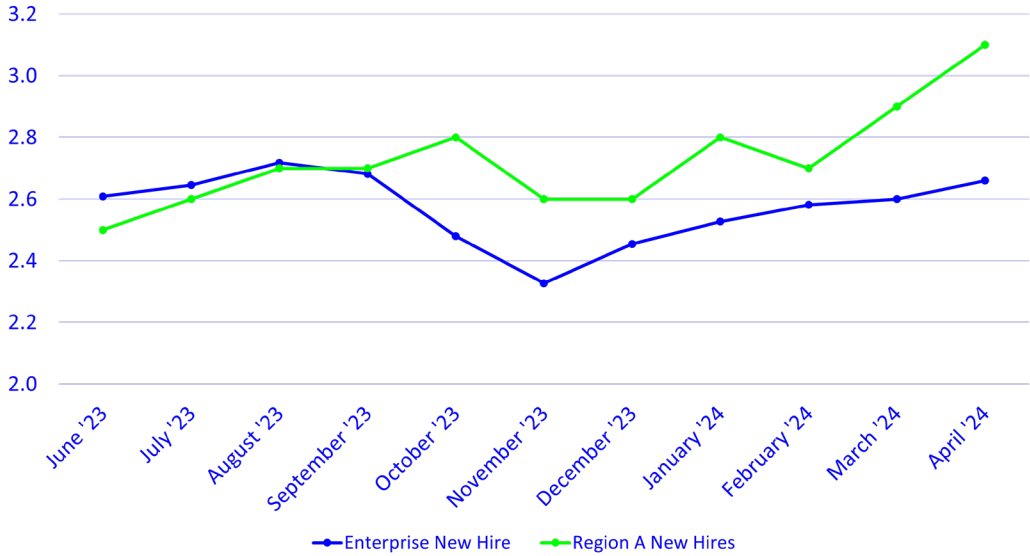


Figure 2 – Month 0-6 Scorecard Comparison

Repeat Rate for positive work, including change of service, restarts and installs, was also considered (see Figure 3). Lower rates for this metric indicate better performance. Region A new hires started lower than Enterprise, but showed a significant spike in September 2023.

The repeat rate began to decline again in October 2023 and showed consistent decrease, performing better than the Enterprise average during December 2023 and January 2024. Region A and Enterprise new hire groups both experienced a similar increase in this score through February 2024. Region A saw better scores than the average in March 2024, then rose again in April.

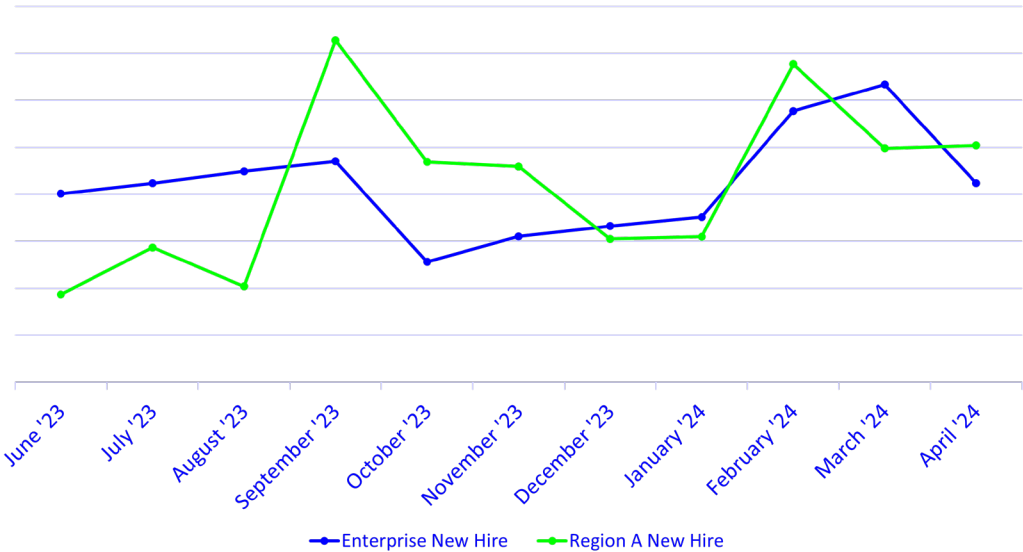


Figure 3 – Repeat Rate – Positive Work

Repeat rates on residential trouble calls were also considered, with Region A consistently underperforming compared to the average during the surveyed period (see Figure 4). A positive downward trend was observed between September and October 2023, then the scores once again rose during late 2023 and early 2024, matching a rise observed in Enterprise. Region A’s performance was still significantly worse in February 2024, and this gap continued even though overall scores began to improve through April. This trend matches the overall average for Enterprise trend, so may indicate other causal factors beyond solely training.

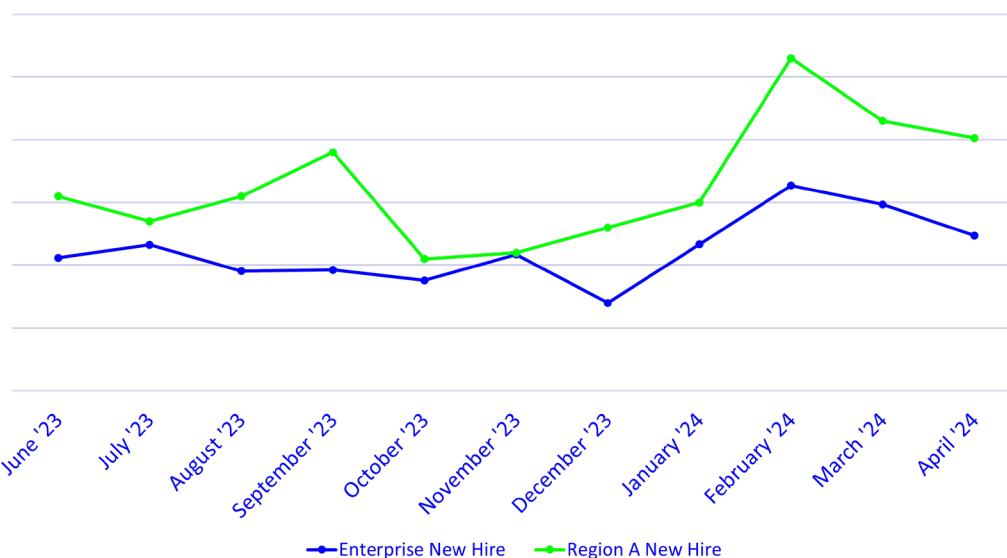


Figure 4 – Repeat Rate – Trouble Calls

4.2. Qualitative Survey

There were a total of 615 unique individuals who received the Level 1 survey during the specified time period, with each receiving it three times during the onboarding period, and a grand total of 1,845 responses could be anticipated assuming a 100 percent response rate. A total of 752 responses were received, which could be interpreted as approximately a 40 percent response rate. A unique response rate cannot be accurately calculated for this data set, since individual responses were not tracked or coded, but this estimate provides us some insight into the volume of respondents overall.

To gather the responses, the survey questions used a Likert scale of 5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree and 1-Strongly Disagree. The scores for each question were averaged across the specified time period and organized by month (see Table 2).

Table 2 – Level 1 Survey Scores

Survey Period	Training activities reflected real world scenarios	This session has increased my ability to perform my current job	Overall I was satisfied with the training program
Apr-23	4.61	4.71	4.68
May-23	4.53	4.41	4.50

Jun-23	4.25	4.53	4.57
Jul-23	4.53	4.65	4.65
Aug-23	4.36	4.52	4.42
Sep-23	4.52	4.59	4.57
Oct-23	4.58	4.79	4.68
Nov-23	4.40	4.47	4.43
Dec-23	4.29	4.52	4.50
Jan-24	4.50	4.62	4.54
Feb-24	4.38	4.71	4.44
Mar-24	4.64	4.86	4.77
Apr-24	4.33	4.33	4.50
May-24	4.67	4.67	4.67
Overall	4.44	4.60	4.54

Responses for all time periods and all questions were overwhelmingly positive. Overall mean score for the question related to the realism of the training activities and environment was 4.44, indicating that trainees generally felt that there was very close alignment between what they learned in the class and how they used the information back on the job. Even higher was the overall mean score for the question related to trainees’ perception of whether the course increased their ability to perform their job, scoring 4.60. Satisfaction for the program as a whole was overall 4.54.

By organizing the scores in a chart, we can more easily identify whether any significant trends exist in the participant responses (see Figure 5). Most relevant to this study is the question related to the trainees’ perception of whether the training helps them perform their job more effectively, and by applying a predictive trendline, we can see that scores have increased over the time period studied and are anticipated to continue to rise.

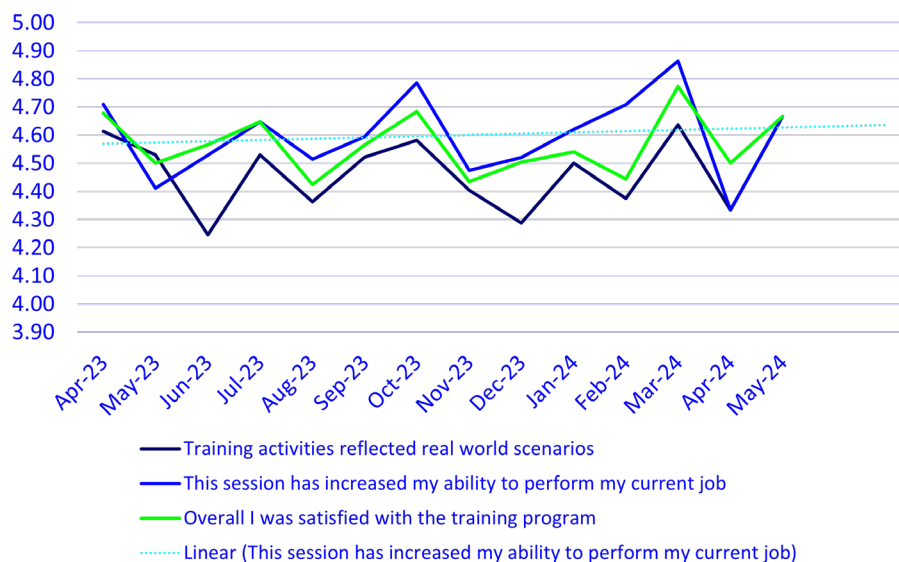


Figure 5 – Trainee Impressions

5. Discussion

The quantitative data suggests that the consistent use of a tool such as the TRC could have a positive relationship to the subsequent performance of the trainer and the trainees, with Region A's new hire scorecard significantly higher than the Enterprise during the studied period. Individual repeat rate metrics did not show the same consistently higher performance, which may indicate that trainees' level of readiness for the complexity of real-world problems could benefit from additional focus during training. The key to successfully measuring Level 4 results is to ensure sufficient time has passed post training and to consider the data in the context of a control; and comparing Region A to the Enterprise over a one-year period aligns to this method (Kirkpatrick, 1994; Phillips & Stone, 2002).

A clear pattern of favorability emerged from the qualitative Level 1 responses, with the overall mean of all questions scoring greater than 4.0 and a predicted continued rise relative to the course's ability to impact job performance. While Level 1 responses are not a reliable predictor of post-training job performance, they can be used to indicate the general favorability of the program and relate to the participants' motivation to learn.

5.1. Study Limitations

This study, while providing valuable insights, is marked by several limitations that we must consider when interpreting the results. Limitations are expected in studies, especially when working in an evolving business environment, and these limitations do not discredit the evidence that we uncovered in the research (Kirkpatrick, 1996).

One significant limitation with considering Level 4 data is the inability to monitor and measure supervisor involvement and support after the training program has completed. Despite the best efforts on the part of a trainer to transfer the appropriate skills and methods during a structured course, the learning can be undone if there is insufficient support or conflicting direction given post-training (Kirkpatrick, 1994; Kirkpatrick & Kirkpatrick, 2006; Phillips & Stone, 2002).

Another limitation was found in the data related to Level 1 reactions, specifically the fact that each unique learner was using the same survey link for each of their three response opportunities. This creates a challenge with identifying any potential trends relative to how a trainee's perspective or opinions on the program may change at different points in the program. This also creates a challenge with being able to clearly correlate responses to a specific time period and identify if trends could be observed between performance data and reaction data.

Lastly, having more details on how the data from the TRC was used with operational leaders, training leaders and trainers could provide additional insights on performance trends.

5.2. Future Research

The findings of this study show promising results relative to the use of a structured reporting dashboard, such as the TRC, to drive post-training performance. A recommendation for future studies would be to include consideration of a baseline measurement to indicate scores prior to the use of such a tool and tighten the focus to a smaller subset of trainers to identify if there are specific classroom or instructional practices that may also influence performance. If, as this study suggests, using such a dashboard can improve performance, learning organizations would be wise to partner with business planning and analyst teams to harness the power of such reporting tools.

6. Conclusion

The findings of this research indicate a clear positive relationship between the use of a training report card and subsequent on-the-job performance and learner experience. The study was aligned to concepts from the literature, including learning transfer and learning measurement methods, and the performance and reaction data aligned with expected positive outcomes. Although future study will be needed to further explore this topic, the present study has enhanced the understanding of how such tools can be used to drive performance and provided clear support for the use of such methods.

Abbreviations

LMS	Learning Management System
TRC	Training Report Card
FTO	Field Technician Onboarding course, a multiweek training program

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