Training Effectiveness in Skills and Competencies: Development Program at Nexus Logistics Solution

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Objective:

01 Skill Level and Performance Trends

02 Impact of Course Sequence on Achievement

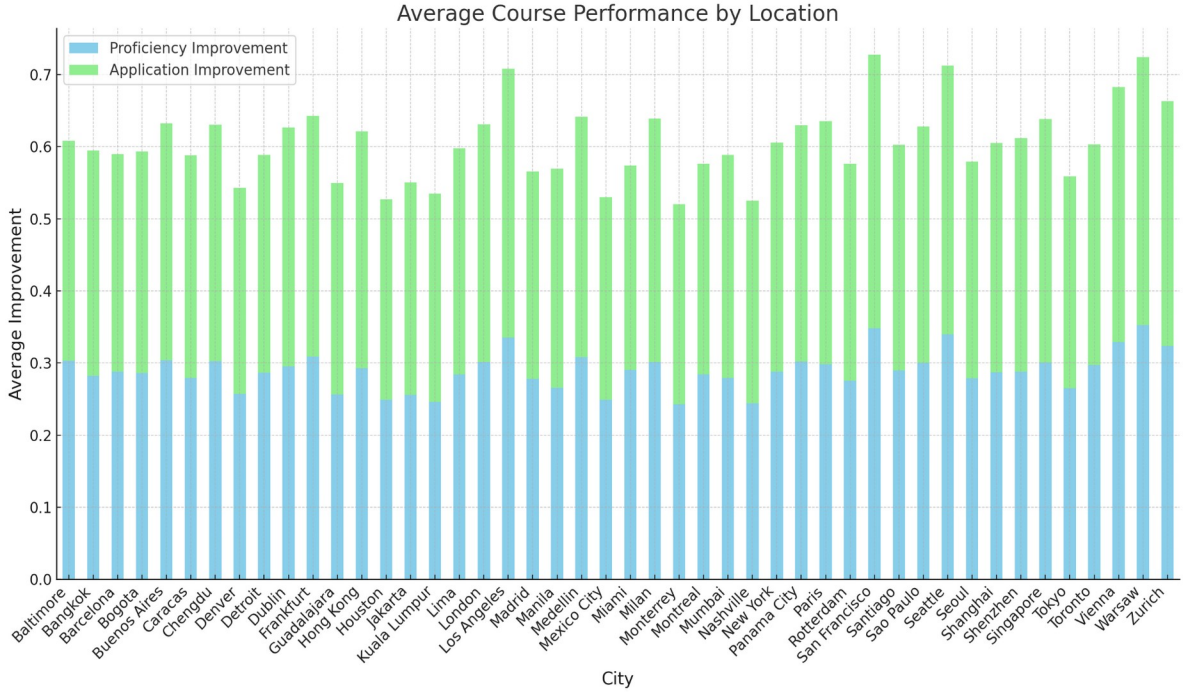
03 Comparison of In-Person vs Virtual Training

01

Skill Level and Performance Trends

Assessing the overall effectiveness of our program and identifying the trends

70% Proficiency Gains in Key Locations: A Regional Comparison

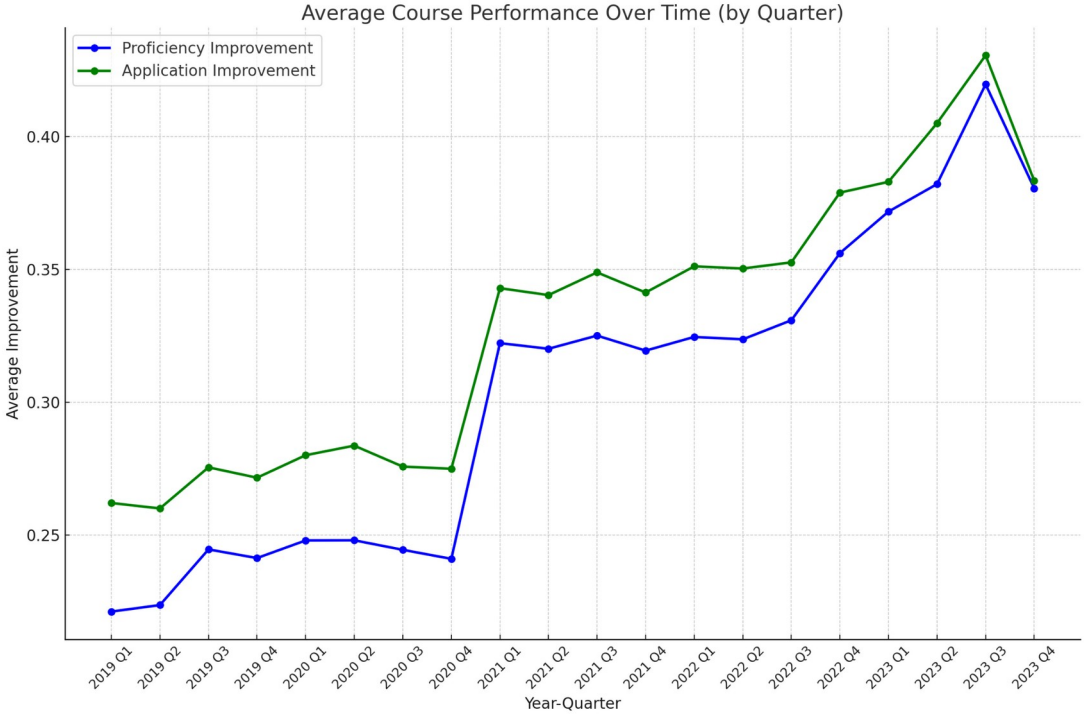


- **Data Insight**: Locations like New York and San Francisco show a 70% improvement in both proficiency and application scores, outperforming other regions.
- **High vs Low Performers**: While top locations improved by 70%, Monterrey and Mumbai saw only about 20-30% gains, highlighting regional disparities.

Quarterly Skill Growth: 15% Spike in Q3, 20% Surge in Q4

Data Insight: Performance increased by **15% in Q3** and **20% in Q4**, reflecting strong training adjustments or external factors in these periods.

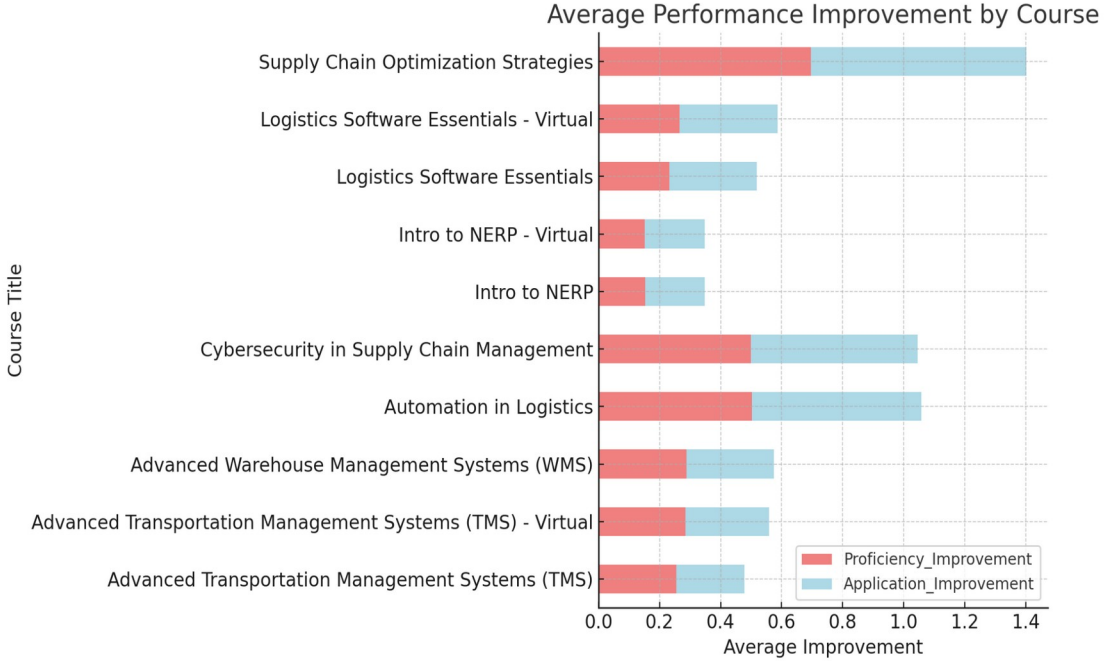
Consistent Growth: Overall, there's a steady upward trend with a cumulative improvement of **50% across all quarters**.



Course Performance: 60% Proficiency Gains in Advanced TMS, 55% in Automation

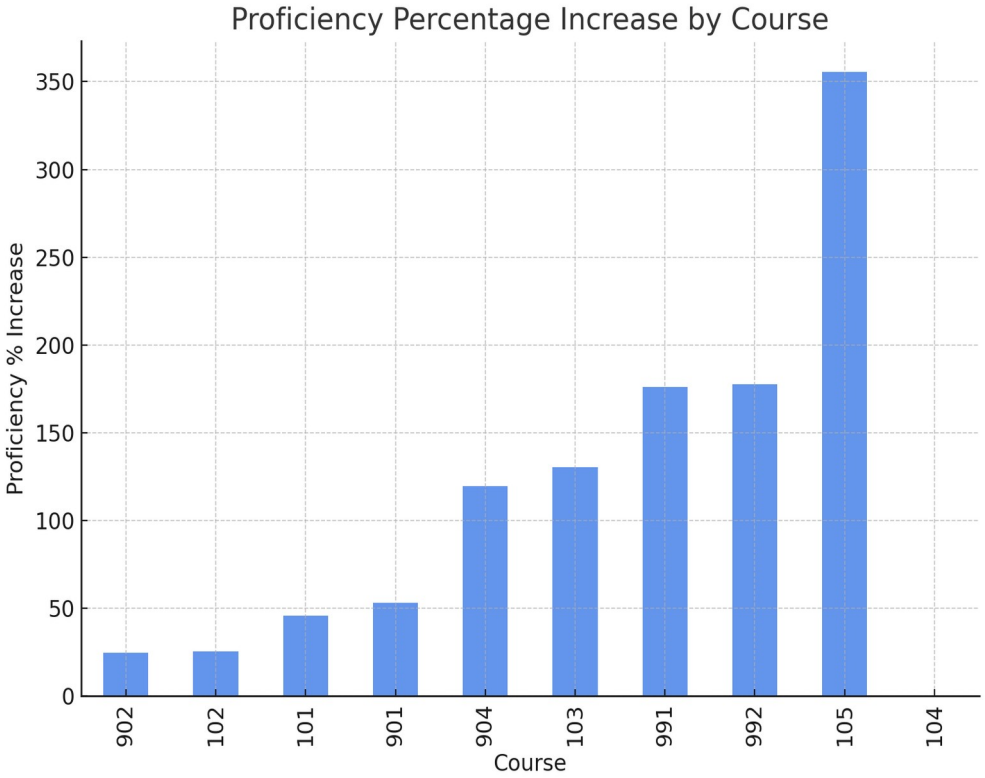
Data Insight: Courses like Advanced TMS and Automation in Logistics show proficiency improvements of **60% and 55%**, making them the most effective.

Underperforming Courses: Courses like Basics of TMS show only a **25% increase**, suggesting a need for curriculum adjustments.



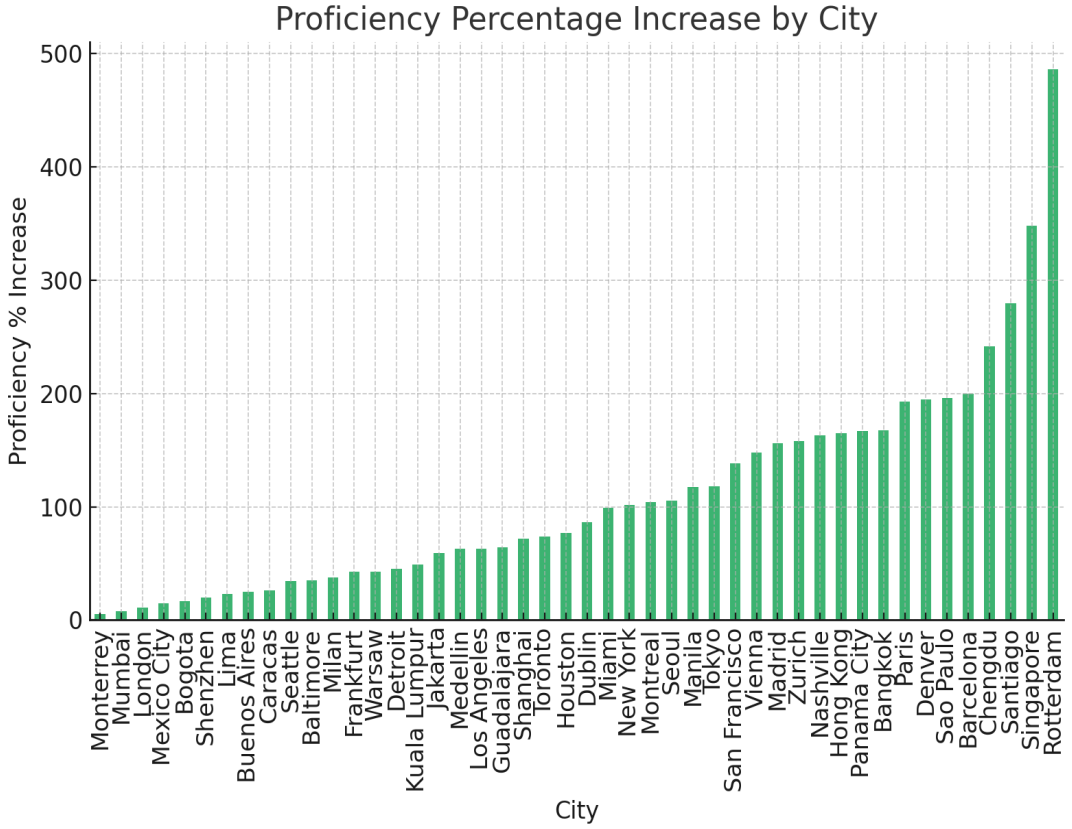
Course 105: 350% Increase in Proficiency – The Most Effective Course

- Courses 991 and 992 also contribute significantly with over 200% proficiency growth.
- Courses like 902 and 102 exhibit minimal improvement, under 50%, signaling a need for program review.
- This suggests some courses are significantly more impactful than others in enhancing employee skills.



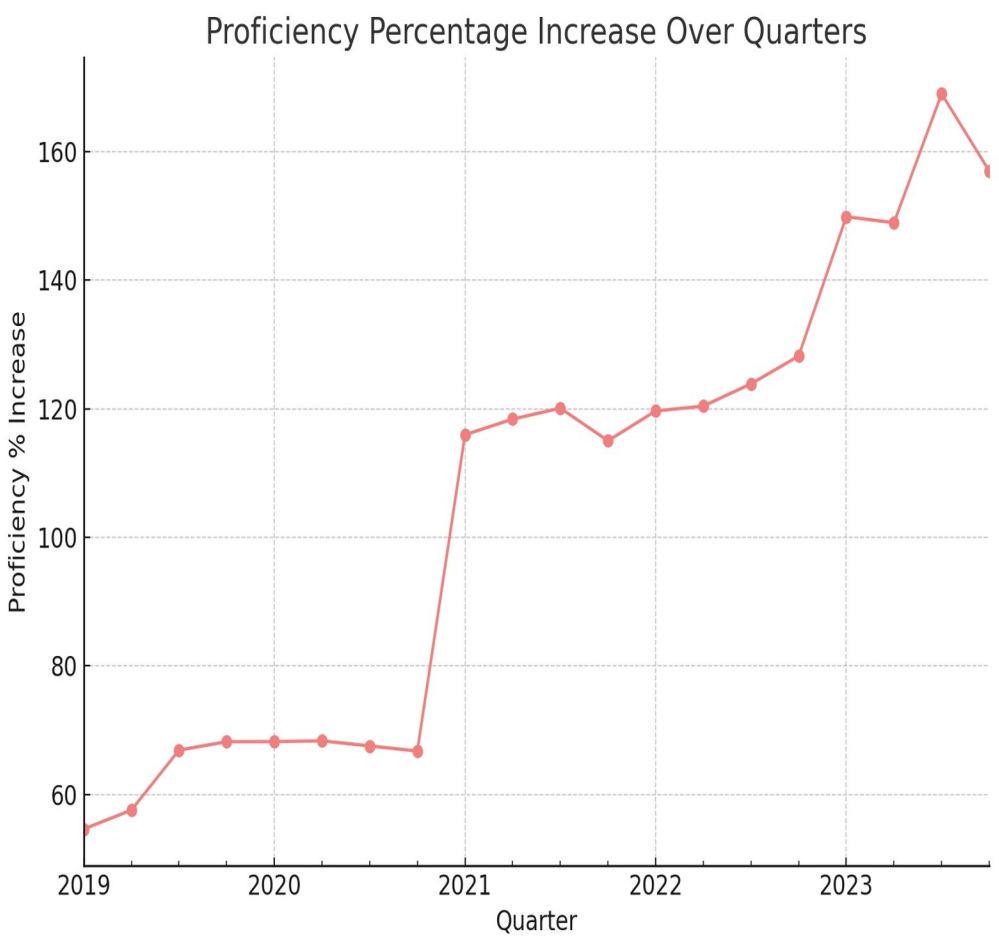
Regional Highlights: Rotterdam and Singapore Show Over 400% Growth in Proficiency

- Rotterdam and Singapore lead with proficiency growth exceeding 400%.
- Cities like San Francisco and Tokyo also show strong increases, between 200% and 300%.
- Monterrey and Mumbai demonstrate limited skill improvements, indicating regional disparities.
- Tailored training strategies may be needed for regions with lower growth to match the top-performing cities.



2021 Marks a 120% Surge in Skill Development – A Turning Point for Training

- Proficiency percentage saw minimal growth between 2019 and 2020, staying around 60%.
- A sharp increase occurred in early 2021, with proficiency jumping to over 120%.
- Proficiency levels continued to rise through 2023, peaking at over 160%.
- The steady upward trend after 2021 suggests effective training implementations or more frequent evaluations.
- The data indicates ongoing program effectiveness and highlights the importance of continuous training and skill assessments.



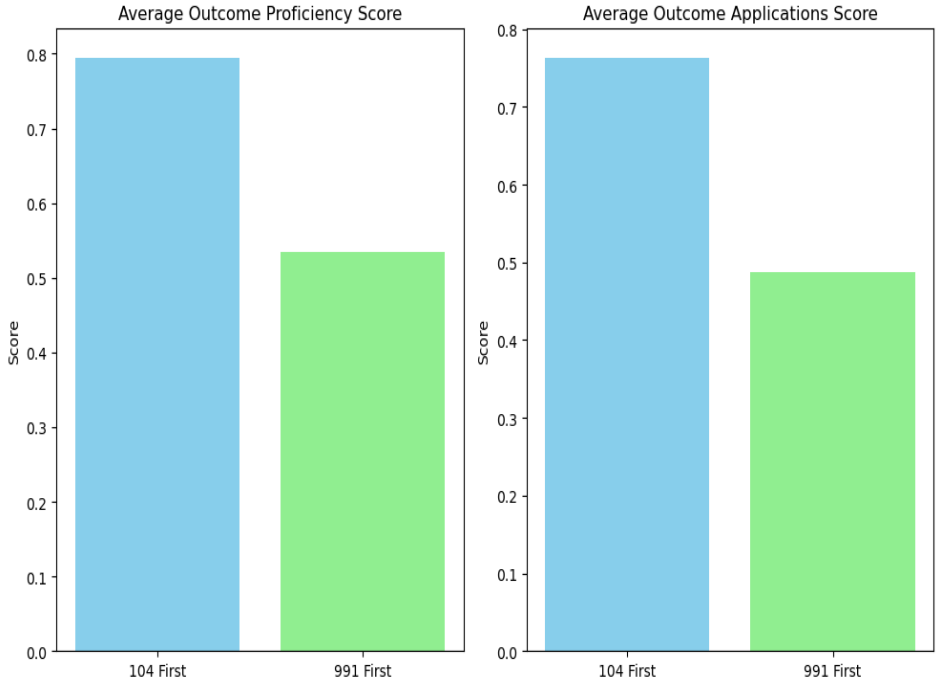
02

Impact of Course Sequence on Achievement

Identifying patterns in course completion order, to recommend optimal learning paths.

Optimizing Course Sequence: 20% Higher Proficiency in Employees Taking Course 104 First

- Employees who took **course 104 first** achieved **higher** scores in both proficiency and applications for their second course, indicating better overall performance.
- Employees who took **course 991 first** had significantly **lower** proficiency and applications scores in their second course, suggesting that this sequence may not be as effective.



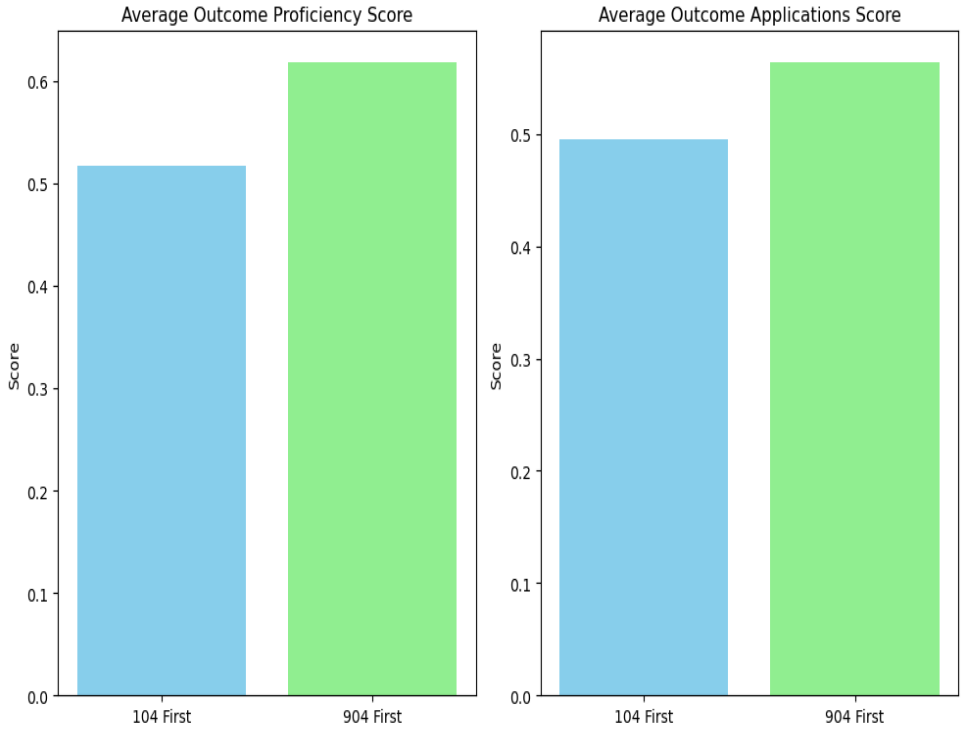
OSL Regression Result

Outcome Proficiency Score Model:
R-squared: 0.540
Coefficient: 0.2588 (p-value < 0.001)
Conclusion: Employees who took Course 104 first scored an average of **0.2588** points higher than those who took Course 991 first. This coefficient is significant, indicating that the order of prior courses has a significant effect on the proficiency score of subsequent courses.
Outcome Applications Score model:
R-squared: 0.524
Coefficient: 0.2748 (p-value < 0.001)
Conclusion: Employees who took Course 104 first scored **0.2748** points higher on the application of subsequent courses than those who took Course 991 first. This coefficient is also significant, indicating that the order of taking the first course has a significant impact on the application score of the subsequent courses.

Conclusion:
According to the results of regression analysis, the order of Course 104 first had a significant **positive effect** on the performance of subsequent courses (Course 991). Employees who took Course 104 first achieved higher proficiency scores and application scores in subsequent courses than those who took Course 991 first.

Sequence Analysis: Negative Impact of Taking Course 104 First in Virtual Training

- Employees who took **course 104 first** had significantly **lower** scores in both proficiency and applications for their second course, suggesting that this sequence may not be as effective.
- Employees who took **course 904 first** achieved **higher** scores in both proficiency and applications for their second course, indicating better overall performance.



Sequence Analysis: Negative Impact of Taking Course 104 First in Virtual Training

Outcome Proficiency Score model:
R-squared: 0.131
Coefficient: -0.1001 (p-value < 0.001)
Conclusion: Employees who took Course 104 first scored, on average, **0.1001** points lower on subsequent Course proficiency scores (Course 904) than those who took Course 904 first. This coefficient is significant, indicating that the order of taking the first Course has a significant impact on the proficiency score of subsequent courses, but taking the first Course 104 has a negative impact on subsequent course performance.

Outcome Applications Score model:
R-squared: 0.065
Coefficient: -0.0678 (p-value < 0.001)
Conclusion: Employees who took Course 104 first scored, on average, **0.0678** points lower on the application of subsequent courses (Course 904) than those who took Course 904 first. This coefficient is also significant, indicating that the order of taking the first Course has a significant impact on the application score of subsequent courses, and taking Course 104 first has a negative impact on the application score.

03

Comparison of In-person vs Virtual Training

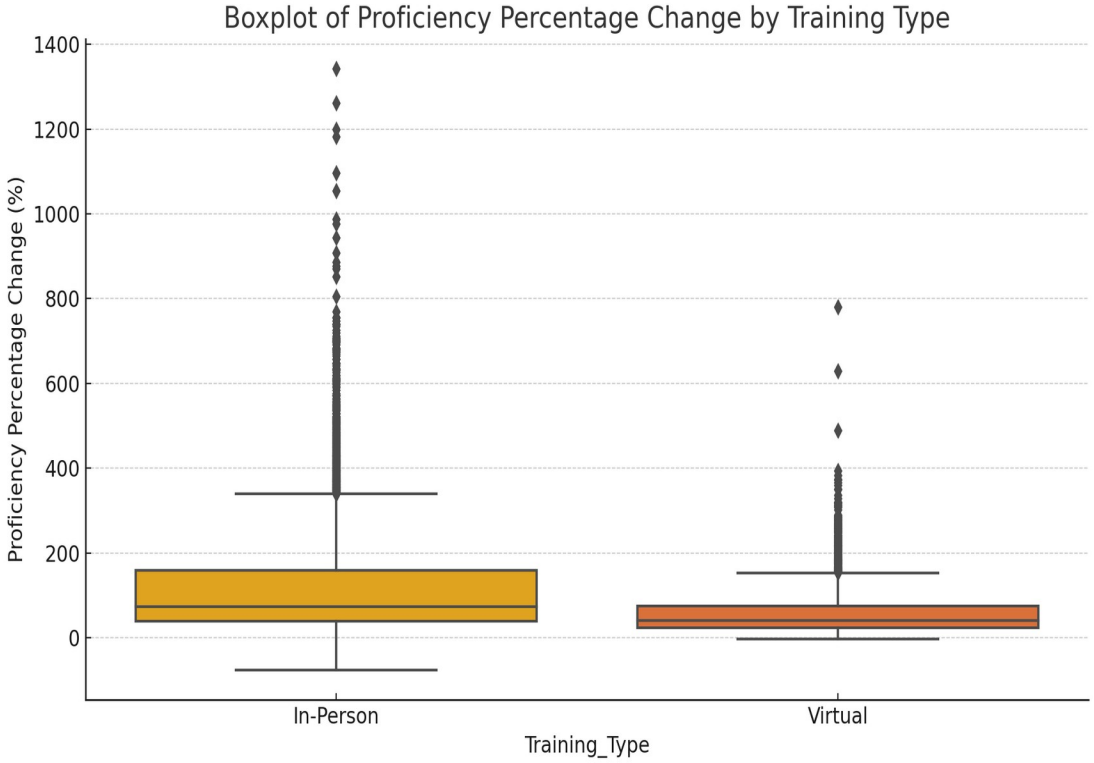
Assessing the success of courses that have adapted to virtual delivery

In-Person Training Boosts Proficiency by Up to 80%

- **In-person training** outcomes show a significant shift, with **most employees increasing proficiency to 0.6–0.8**, reflecting a **50–80% improvement** from their intake scores.
- **Virtual training** also improves proficiency, but fewer employees reach high levels, with outcomes more evenly spread between **0.3 and 0.7**.
- In-person intake scores largely fall between **0.1 and 0.3**, showing a **strong improvement post-training**.

In-Person Training Yields 100% Median Improvement with Outliers Reaching 800%

- **Median improvement** in proficiency for in-person training is **100%**, with outliers showing gains of over **800%**, indicating **extreme positive outcomes** for some.
- Virtual training has a **lower median improvement**, closer to **50%**, and fewer employees demonstrate extreme gains.
- **Interquartile Range (IQR)** for in-person training is wide, indicating more **variation in performance** improvement, while virtual training is more **consistent** but with smaller gains.



Key Findings

- Course 105 showed a 350% proficiency increase, while Courses 991 and 992 had over 200% growth; some courses like 902 saw less than 50% improvement.
- Rotterdam and Singapore led with over 400% proficiency growth, while Monterrey and Mumbai underperformed.
- In-person training resulted in up to 80% proficiency gains, with virtual training showing a median improvement of 50%.
- Course 104-first sequence led to 20% higher proficiency than starting with Course 991.

Conclusion

- High-impact courses like 105 and 991 significantly boost proficiency, while others need review for improvement.
- Regional disparities highlight the need for tailored training strategies in underperforming areas like Monterrey and Mumbai.
- In-person training proves more effective than virtual, with greater proficiency improvements.
- Optimized course sequences improve learning outcomes, emphasizing the importance of course order in achieving higher proficiency.

Appendix

Assistance from Gen AI Tools

- Took assistance from ChatGPT to refine Python code for data analysis.
- Used ChatGPT to brainstorm and improve insights from graphs and data.
- Helped enhance the clarity and structure of the presentation, while we crafted the final content.