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Effectiveness of Business English Training Programs in Corporate Organizations

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ABSTRACT

Effectiveness of Business English training programs is one of the crucial issues in improving the communication skills, professional performance, and workplace productivity of the personnel in corporate enterprises. This study looks into the effectiveness of Business English training, which includes the following aspects of employees' development: language proficiency, communication skills, confidence level, presentation skills, and overall workplace performance. This study takes into consideration several aspects related to training including duration of training program, number of training hours, teaching methods, participation of employees, and business communication exercises. Quantitative data is processed through statistical and machine learning analysis techniques to establish correlations between training variables and performance results of employees. The results have shown that Business English training can help employees become effective communicators in their meetings, negotiations, and presentations and also while writing professional emails. Regular practice and context-based learning activities will help employees become more confident and proficient in language.

1. INTRODUCTION

English is necessary to succeed in today's highly competitive labour market. Most companies need English from their employees for use as a common language of communication in business worldwide [1]. It also talks about how business librarians are uniquely qualified to work alongside language teachers for providing machine translation literacy skills to international students enrolled in business programs [2]. By the time the RFP was released, two main issues had emerged. One was the absence of a standard approach by the off-shore call center facilities because each location had come up with its own way of conducting assessment and communication skills training [3]. Economics and Business Administration and takes care of providing the courses in foreign languages for the students of the same faculty as well as students of the Faculty of Business and the Faculty of European Studies. Thus, our first and foremost aim is the development of business language [4]. The proposed adaptive Business English self-study system combines two distinct learning methods: an incidental and implicit approach to help learners be constantly exposed to the new vocabulary; and an intentional and explicit approach that demands active participation from learners to deal with the target words [5]. Despite the increased use of artificial intelligence technologies in language education, there are still many gaps that exist in current research, particularly concerning business English [6]. Business English courses have been increasingly adopting performance-based assessment for its efficacy in assessing the competences of learners in their communication and interculturality in real-life business

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settings [7]. Economics and Business are areas where knowledge has been created on the basis of culture. Hence, when developing business courses, it is crucial for lecturers to take into account cultural factors [8]. Business English is a special form of English language and includes many aspects of culture, such as business traditions, practices, customs, and etiquette of various countries and cultures [9]. Business English, which is a distinct version of English, includes many aspects of culture, which may be related to various cultures and include the traditions, practices, customs, and manners of the business world [10]. This conventional and monotonous method cannot meet the desired teaching objectives or create any effective learning outcomes. On the contrary, the contemporary approach in education uses business English audio-visual tools and extensively employs the help of multimedia sources to incorporate the business knowledge from different related disciplines [11]. In current teaching practices, this particular subject is referred to by various titles, including General Linguistics, Introduction to Business English Linguistics, and Business English Linguistics [12]. Improving the ability of students to make quick decisions can be achieved by the use of this application software in handling different business presentation slides. This is because the slides keep changing automatically prompting quick decisions [13]. The development of the host country or city takes place at a speedier pace than is normally expected since investments are made promptly. This is facilitated by financial contributions from the governments as well as sports associations along with cooperation between political leaders and businessmen [14].

2. METHODOLOGY

Linear Regression: Linear regression is a statistical tool that is used to analyse and measure the association between the dependent variable and the independent variable. This tool is mostly used in predicting the value of the dependent variable based on the value of the independent variable. Simple linear regression assumes that there is a linear relationship and can be illustrated using a line. Intercept of a simple linear regression model indicates the value of the dependent variable where the value of the independent variable equals zero whereas the slope indicates the value change in the dependent variable due to a one-unit change in the independent variable.

Random Forest Regression: Random Forest Regression is a sophisticated supervised machine learning technique, aimed at predicting continuous numerical variables. It is an ensemble learning algorithm, based on building and combining multiple decision trees to generate a better prediction output. Every decision tree is built on the basis of randomly selected samples of training data and features. Consequently, this ensures that overfitting is avoided, and better generalization results are obtained. The final output is usually calculated through averaging the outputs of each separate tree.

Support Vector Regression: Support vector regression (SVR) is a machine learning approach which is used for the prediction of continuous numerical values. It is an extended version of support vector machines (SVMs) that is specifically developed for regression problems. The SVR tries to obtain a function to make predictions regarding the output variable, while taking into account a certain threshold of error. Unlike regression algorithms, support vector regression makes use of a method that tries to obtain a regression function considering a threshold error, which is called the ε (epsilon)-insensitive tube. The data points lying outside this tube are deemed relevant and are termed as support vectors since they affect the regression function.

- **Training Hours:** Training hours refer to the overall time that employees allocate to taking part in training programs for Business English. Long training sessions normally help employees gain knowledge on business language such as vocabulary, grammar, writing, and communication. Training is very important when it comes to developing language and communication skills among many other professions. Therefore, training time is very important when determining the effectiveness of training.
- **Attendance:**Attendance percentage refers to the frequency of employee attendance during training programs. High attendance percentage means higher participation and continuous learning opportunities for employees. With regular participation in training classes by an individual, he or she is able to comprehend the material taught in those classes and communicate effectively. Therefore, attendance is critical in ensuring success in the training process.
- **Pre Test Score:** The pre-test score determines the Business English proficiency level of the employees prior to

training. The pre-test score is helpful in determining the knowledge and communication skill level of the employees at the outset. Pre-test scores that are relatively low mean that there is more need for learning, whereas high scores imply better skills beforehand.

- **Satisfaction:** Satisfaction refers to the level of employees' satisfaction with the Business English training program regarding its quality and relevance. If the participants are satisfied with the training program, it means that they feel that it is useful for them and helps increase their motivation levels
- **Practice Per Month:** Monthly practice refers to the frequency of using Business English by employees outside the training program. The more frequently an employee practices, the more he will be able to build up his vocabulary, grammar, speaking, writing, and listening skills. As a result, practice will positively impact learning. Therefore, monthly practice will make a great contribution to training success.
- **Post Test Score:** Post-test score reflects employees' proficiency in Business English after completing the training program. If the post-test score is higher than the pre-test score, then the knowledge and communication skills of the employees have improved. Post-test score is one of the most important variables when measuring training success.

3. ANALYSIS AND DISCUSSION

TABLE 1. Descriptive Statistics of Training and Performance Variables

Statistic	Training Hours	Attendance (%)	Pre-Test Score	Satisfaction	Practice/Month	Post-Test Score
Count	20	20	20	20	20	20
Mean	30.4	88.05	59.8	8.15	10.05	78.15
Std	9.275888	6.621138	5.463756	1.225819	3.762348	9.911583
Min	15	75	50	6	5	61
25%	23.5	83.5	55.75	7	7	70.5
50%	30	88.5	60	8	9.5	78.5
75%	36.5	93.25	63.25	9	12.25	85.5
Max	48	98	70	10	18	95

Table 1 shows the descriptive statistics for 20 participants, showing an average training duration of 30.4 hours, attendance of 88.05%, and post-test score of 78.15. These results suggest generally high attendance and improved learning outcomes, with moderate variability across participants.

Figure 1 shows the effect of process parameters on Business English training programs. It highlights the relationship between training-related factors and learning outcomes, helping identify influential parameters that may improve training effectiveness, participant engagement, and overall English communication proficiency.

Figure 2 shows a correlation heatmap illustrating the relationships among variables in Business English training programs. It helps identify positive and negative associations between training parameters and learning outcomes, supporting the selection of influential factors for improving training effectiveness.

TABLE 2. Linear Regression Training Hours: Train and Test Performance Metrics

Metric	Train	Test
R^2	0.99888	0.97070
EVS	0.99888	0.97071
MSE	0.09739	1.47206
RMSE	0.31207	1.21328
MAE	0.26098	1.00127
Max Error	0.61041	2.39870
MSLE	0.00010	0.00344
Med AE	0.18251	0.85823

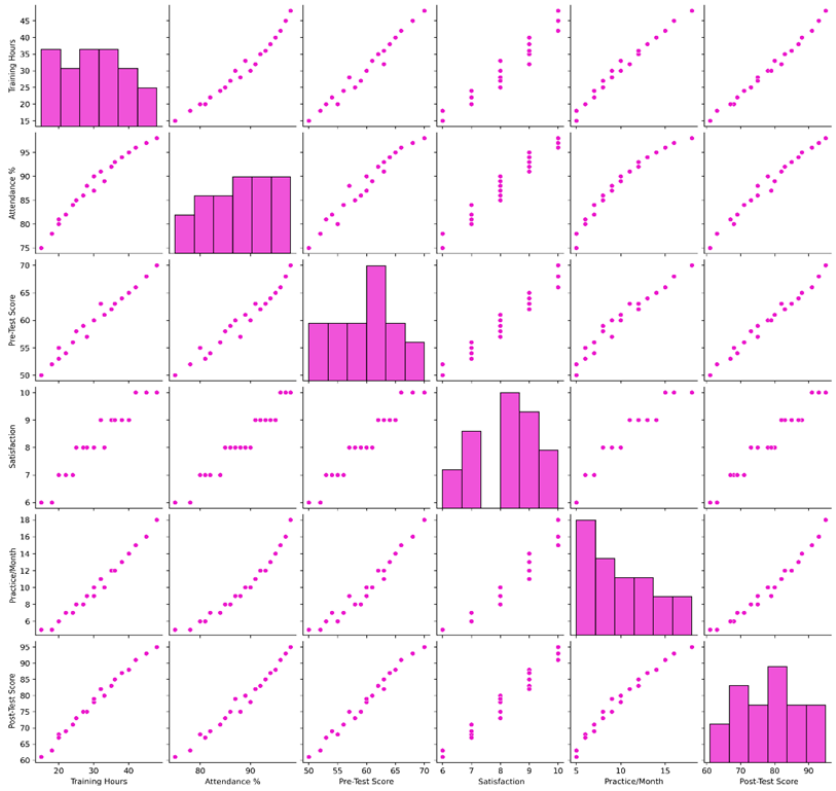


FIGURE 1. Business English Training Programs Effect of Process Parameters

Table 2 shows The performance measures of the Linear Regression model are provided The model exhibits very strong prediction performance, with the R^2 value of 0.99888 for training data and 0.97070 for test data, suggesting that it explains 99.9% and 97.1% of variance, respectively. The EVS values are high too. Larger values of MSE, RMSE, and MAE show the absence of prediction errors. A relatively small test RMSE value of 1.21328 and MAE value of 1.00127 show good generalization

Figure 3 shows the Linear Regression model for predicting training hours based on training-related parameters. The model identifies relationships between input variables and predicted outcomes, demonstrating its ability to estimate training performance and support data-driven evaluation of Business English training programs.

Figure 4 shows the comparison of the expected and real training hours on the testing dataset for the Linear Regression method. the points are quite close to the dotted 45° line, which indicates that there is a match between the real and expected values. However, the points are not perfectly aligned, which shows that there are some deviations. They are due to the prediction errors made by the model. But they are not very large.

TABLE 3. Random Forest Regression Training Hours: Train and Test Performance Metrics

Metric	Train	Test
R^2	0.99471	0.89663
EVS	0.99471	0.90649
MSE	0.46005	5.19269
RMSE	0.67827	2.27875
MAE	0.51250	1.90625
Max Error	1.57000	4.24000
MSLE	0.00059	0.01047
Med AE	0.35500	1.70500

Table 3 shows results of the Random Forest Regression model for predicting the number of training hours are presented. The Random Forest Regression has shown to be a great model with respect to R^2 score in training, which is 0.99471.

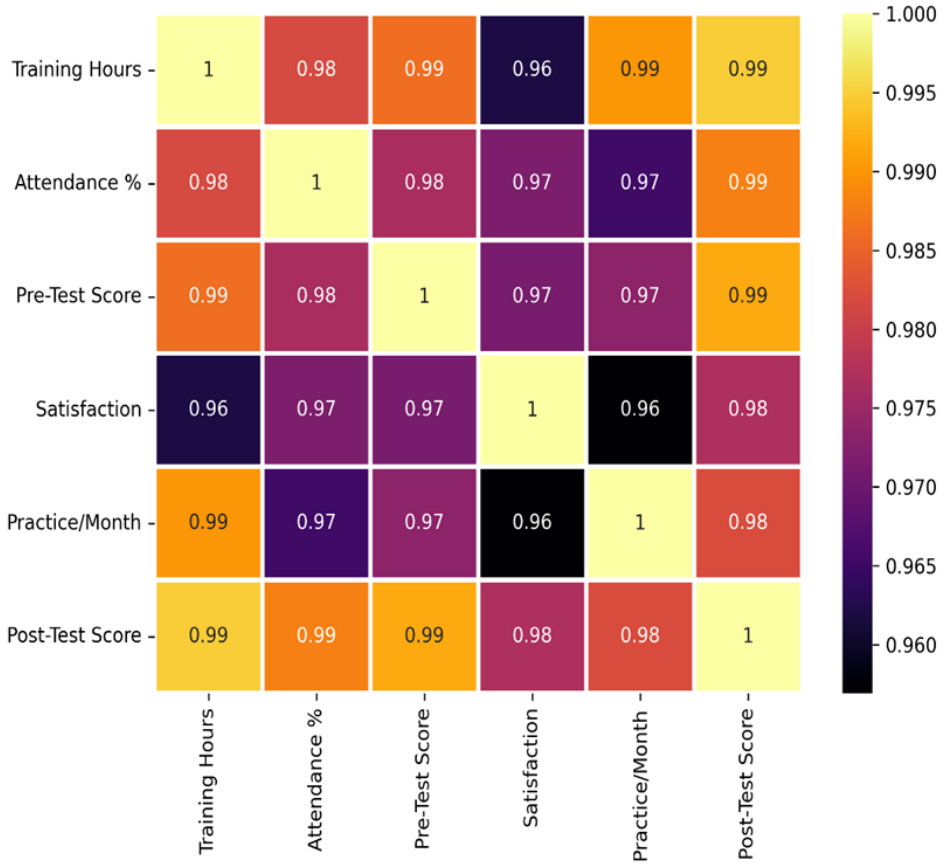


FIGURE 2. Business English Training Programs Correlation heat map

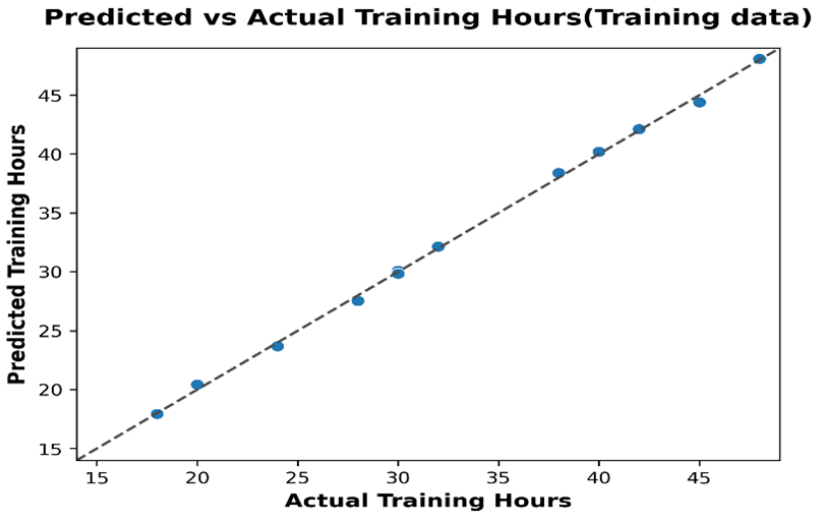


FIGURE 3. Linear Regression Training Hours Type Training

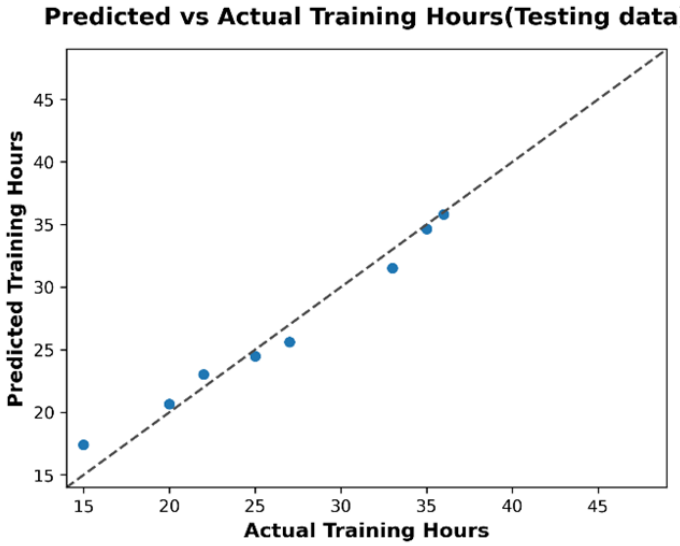


FIGURE 4. Linear Regression Training Hours Type Testing



FIGURE 5. Random Forest Regression Training Hours Type Training

Figure 5 shows the comparison of predicted and actual training hours for the training set through Random Forest Regression Model In most cases, the points are clustered quite close to the dotted 45° reference line, which reflects that there is good concordance between the actual and predicted training hours.

Figure 6 shows the scatter plot of the predicted values against the actual values of training hours using the Random Forest Regression model. There is a generally positive relationship that can be seen among the data points, which have an acceptable distribution around the 45° dashed reference line.

Table 4 shows the SVR model performance on training and testing datasets to predict the number of training hours. A high value of R^2 of training for the SVR model of 0.99203 as well as a high value of R^2 of testing of 0.97796 have been reached. This implies that SVR can explain 99.2% and 97.8%, EVS of 0.99340 and 0.98470 also represent the high predictive capabilities of SVR.

Figure 7 shows the actual against predicted training hours for the training data based on the SVR model. The scattered data points lie very close to the 45° reference line, indicating a high level of consistency between the actual and predicted training hours. The SVR model retains high prediction accuracy over the entire range of around 15-48 hours.

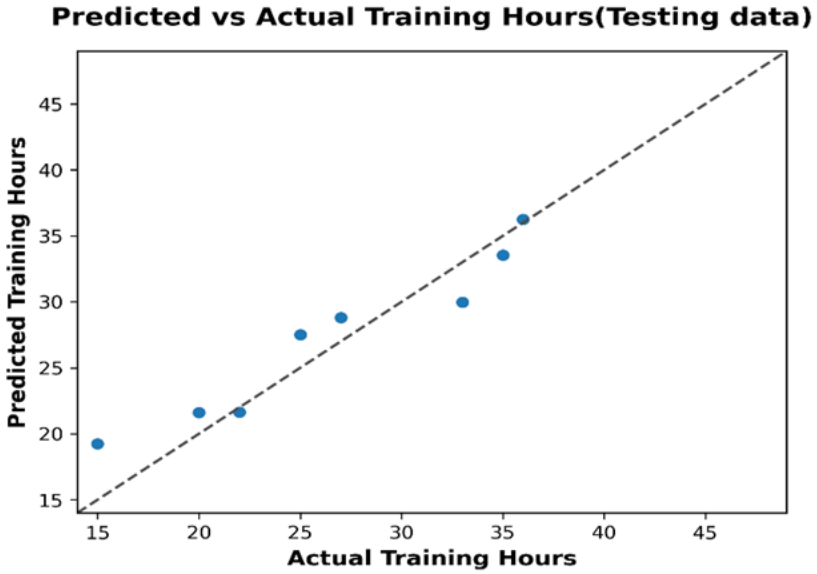


FIGURE 6. Random Forest Regression Training Hours Type Testing

TABLE 4. Support Vector Regression Training Hours: Train and Test Performance Metrics

Metric	Train	Test
R^2	0.99203	0.97796
EVS	0.99340	0.98470
MSE	0.69237	1.10727
RMSE	0.83209	1.05227
MAE	0.47412	0.91977
Max Error	2.56229	1.56237
MSLE	0.00064	0.00205
Med AE	0.16592	0.92674



FIGURE 7. Support Vector Regression Training Hours Type Training

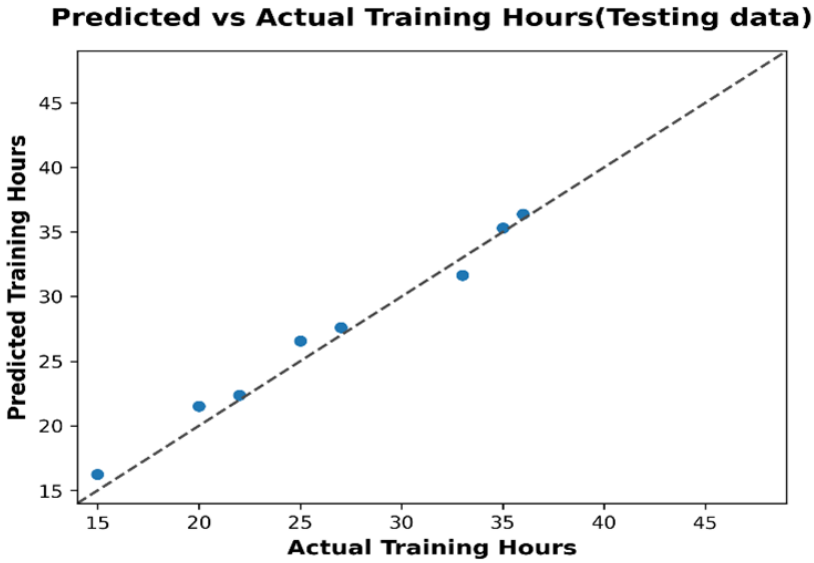


FIGURE 8. Support Vector Regression Training Hours Type Testing

Figure 8 presents the comparison between the predicted training hour value and the actual training hour value of the testing data set using the Support Vector Regression (SVR) method. Most of the dots tend to be around the dashed line, whose angle is 45°, meaning that there is a high correlation between the two sets of values. There are very small differences between the actual line and the ideal line. .

4. CONCLUSION

The Effectiveness of Business English Training Programs in Corporate Organizations emphasizes the significance of Business English training for the development of communication and performance abilities among employees. As we can see from the results obtained, business English classes help employees acquire skills in speech, writing, listening, and presentations. These skills assist people in communicating efficiently within an organization. Training allows people to participate more actively in meetings, negotiations, customer relations, email correspondence. The performance analysis shows that employees who undergo systematic training show better performance results than their previous performance records. Such factors as training time, learning processes, practical experience, instructors' assistance, and evaluation play an important role in the efficiency of the program.

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