

ONLINE VS FACE TO FACE TRAINING: RETHINKING IMPACT AND EFFECTIVENESS

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ABSTRACT

The emergence of digital learning in training has made the necessity to rethink the approaches used to measure the effectiveness of training more pressing, primarily due to the popularity of metrics focused on satisfaction. The current study explores the satisfaction-effectiveness gap associated with such an approach to assessing training efficiency by comparing online (Pelatihan Jarak Jauh/PJJ) training programs with traditional face-to-face training. In particular, the study integrates the Indeks Kepuasan Masyarakat (IKM) approach to assessment with the well-known model of Kirkpatrick and uses data triangulation from participants, trainers, and supervisors at the Religious Education and Training Centers in Medan, Indonesia. The findings show that the IKM index diverges from other aspects of training: PJJ is associated with greater satisfaction (IKM > 94) than face-to-face programs (IKM ≈ 89), but is not followed by improvements in behavior change or performance improvement among the trainees. At the same time, face-to-face training proves to be significantly more effective in terms of both behavioral changes and improvement in performance despite the lower degree of participant satisfaction. Overall, participant satisfaction seems to be determined more by the convenience and availability of training than its actual impact on the effectiveness of performance. Therefore, this finding calls into question the focus on the first level of measurement proposed by Kirkpatrick and suggests a move to behavior and outcome-based frameworks of assessment in the area of public administration.

Keywords: training, effectiveness, online, face-to-face.

ABSTRAK

Adanya pembelajaran digital dalam pelatihan menjadikan kebutuhan untuk meninjau kembali pendekatan yang digunakan dalam mengukur efektivitas pelatihan semakin mendesak, terutama karena masih dominannya penggunaan metrik yang berfokus pada kepuasan peserta. Penelitian ini mengeksplorasi kesenjangan antara kepuasan dan efektivitas pelatihan dengan membandingkan program pelatihan daring (Pelatihan Jarak Jauh/PJJ) dan pelatihan tatap muka. Secara khusus, penelitian ini mengintegrasikan pendekatan Indeks Kepuasan Masyarakat (IKM) dengan model evaluasi pelatihan Kirkpatrick, serta menggunakan triangulasi data yang diperoleh dari peserta pelatihan, widyaiswara, dan atasan langsung pada Balai Pendidikan dan Pelatihan Keagamaan Medan. Hasil penelitian menunjukkan bahwa nilai IKM tidak selalu sejalan dengan aspek efektivitas pelatihan lainnya. Program PJJ memperoleh tingkat kepuasan yang lebih tinggi (IKM > 94) dibandingkan pelatihan tatap muka (IKM ≈ 89), namun kepuasan yang tinggi tersebut tidak diikuti oleh peningkatan perubahan perilaku maupun kinerja peserta setelah pelatihan. Sebaliknya, pelatihan tatap muka terbukti lebih efektif dalam mendorong perubahan perilaku dan peningkatan kinerja, meskipun tingkat kepuasan peserta relatif lebih rendah. Temuan ini menunjukkan bahwa kepuasan peserta lebih banyak dipengaruhi oleh faktor kemudahan dan aksesibilitas pelatihan daripada dampak nyata pelatihan terhadap efektivitas kinerja. Oleh karena itu, penelitian ini mempertanyakan ketergantungan yang berlebihan pada evaluasi tingkat pertama dalam model Kirkpatrick (reaksi/kepuasan peserta) dan mengusulkan pergeseran menuju kerangka evaluasi yang lebih berorientasi pada perubahan perilaku dan hasil kinerja, khususnya dalam konteks pelatihan sektor publik.

Kata Kunci: Efektivitas pelatihan, pelatihan sektor publik, pembelajaran daring, pelatihan tatap muka.

INTRODUCTION

Digital transformation has caused significant changes in professional training from face-to-face training to online training. The benefits of online training include cost effectiveness, flexibility, and availability, making online training the leading form of training in capacity building for public sector employees. However, despite the prevalence of online training, there is emerging literature that calls for the evaluation of the effectiveness of training relative to face-to-face training in changing the participants behavior and performance (Bond et al., 2023; Zhang et al., 2022).

Currently, training evaluation tends to focus on satisfaction measurements. Examples of such satisfaction-based tools include the Indeks Kepuasan Masyarakat. Though satisfaction measurement provides an effective and straightforward measure of assessing how people feel about the training process, they do not necessarily capture the extent to which training causes learning and behavior changes, limiting their relevance as predictors of training success (Kraiger & Ford, 2022; Sitzmann & Weinhardt, 2022).

On a theoretical level, the process of evaluating training programs is well established in the literature. For example, the Kirkpatrick Model evaluates the impact of training in four stages: reaction, learning, behavior, and results. Though satisfaction measurement can be considered as reaction measurement in this case, the effectiveness of the training lies in the extent to which it leads to behavior change and results.

One major problem stems from the focus of evaluation procedures at the beginning stage only. In such cases, training initiatives may seem effective and productive due to their high satisfaction rates but lack significant changes in employees' behavior. Such discrepancy results in what the present study calls illusion of effectiveness, meaning that success is not always equal to having a practical effect. The problem becomes more apparent when comparing online and face-to-face training programs, which usually have different levels of flexibility and interaction but both claim high satisfaction rates. For example, online training tends to be more convenient and effective in organizational context but fails to provide sufficient interaction and deep learning.

This problem becomes clearer after reviewing current research evidence. Recent literature proves that satisfaction is not an indicator of training effectiveness as it often does not lead to any changes or behavioral adjustment (Kim et al., 2023; Martin et al., 2022). In addition, many problems of online training include lower engagement, distraction, and interaction, which influence learning outcomes negatively (Bond et al., 2023; Rapanta et al., 2022). Therefore, training evaluation must include multiple aspects rather than concentrate on one factor only.

However, several challenges related to online training exist in Indonesia's North Sumatra. In this case, the low level of internet penetration in rural and isolated areas hinders effective participation in online training sessions. Moreover, gaps in technological literacy skills among civil servants related to using laptops for digital learning influence the process of engaging with the material. Regarding culture, online training is regarded as more flexible and less binding, meaning that learners experience low cognitive engagement, with their

participation being formal rather than actual. Disengagement in online learning may negatively affect training outcomes, as it was linked to decreased learning transfer (Martin et al., 2022).

In light of the above information, the current research attempts to reconsider training effectiveness in the modern context by comparing online and face-to-face training from multiple perspectives. First, it will allow the analysis of training impact beyond the participants' self-reported satisfaction. Integrating citizen satisfaction measurement through the Indeks Kepuasan Masyarakat approach alongside evaluating online and face-to-face training according to the Kirkpatrick Model will help to understand how satisfaction relates to changes in behavior.

The main value of the proposed study is the attempt to overcome the existing bias toward evaluating training programs using the concept of satisfaction and highlighting the illusion of effectiveness in its implementation.

LITERATURE REVIEW

The assessment of training exercises is vital in measuring how successful capacity-building programs are at producing concrete results beyond the individual experiences of the participants. Classical literature, as well as modern scholarly works, suggest that the Kirkpatrick model is often employed as an effective tool for evaluating the success of a training program. In this context, evaluation is viewed as a hierarchical process with four sequential levels: reaction, learning, behavior, and results. While the Kirkpatrick model is depicted as a theoretically justified mechanism for evaluating training effectiveness, modern empirical evidence shows that this approach is rarely employed in practice, and only the first level of evaluation is conducted by organizations because of its relative simplicity and measurability (Kraiger & Ford, 2022; Sitzmann & Weinhardt, 2022; Salas et al., 2023).

This development has led to a reduction in complexity of the concept of training efficiency since immediate results have been associated with the lasting effect on the target population. In the case of governmental organizations, this development is reinforced by satisfaction scales such as the Indeks Kepuasan Masyarakat allowing the evaluation of service quality based on quantitative metrics. The findings of recent research suggest that satisfaction cannot be used as an appropriate metric for predicting the learning transfer and on-the-job performance of trainees because there are no strong correlations between these concepts (Sitzmann & Weinhardt, 2022; Blume et al., 2023). Satisfaction can be considered an indicator of estimating training quality but not its effectiveness.

At the same time, the development of new digital technologies has facilitated the emergence of online training and learning as a dominant mode of education and instruction in businesses, governmental agencies, and academic institutions. The major benefits of online training include increased accessibility and flexibility and decreased training expenses (Bond et al., 2023; Zhang et al., 2022). However, doubts about the effectiveness of online courses remain relevant. Many scholarly articles note the existence of issues with virtual training and learning including learner engagement and ineffective transfer of knowledge (Bond et al., 2023; Nguyen & Habok, 2024; Lim & Richardson, 2024). These issues make it hard for learners to gain

knowledge successfully and apply their new skills to their jobs effectively (Martin et al., 2022; Kim et al., 2023; Rapanta et al., 2022).

In comparison with online programs, face-to-face training allows establishing more interpersonal communication and gaining greater control over instruction. As a result, deeper cognitive processes are triggered, making it easier to internalize information, which promotes behavior change. The recent studies show that there is a direct correlation between high interactivity and engagement within the learning process and effective transfer of knowledge to practice (Salas et al., 2023; Blume et al., 2023). Thus, although there are several advantages associated with online courses, face-to-face training seems to be more effective since it provides learners with a better experience. It is essential to remember that training effectiveness has to be evaluated from different angles.

However, even at the current stage of research progress, the modern literature related to the topic of interest has revealed a number of important gaps. First, there is an evident lack of empirical investigation devoted to the correlation between participant satisfaction and training effectiveness. In addition, there is an obvious lack of comparative research comparing traditional training (face-to-face) to online training. There is also a significant lack of comparative research on the issue of training effectiveness for employees that have undergone training in the public sector in developing countries (OECD, 2024; World Bank, 2025). Finally, there is an evident shortage of various contextual factors that can be considered determinants of learning outcome in theoretical models of training effectiveness.

Given all these considerations, there is a necessity to conduct a more comprehensive research on the issue of training evaluation and its associated factors, including different contextual ones that can affect the process of training. Hence, in order to fill the existing knowledge gap related to the problem under discussion, this research suggests revisiting the theory of training effectiveness with a particular focus on such aspects as participant satisfaction and training impact. The comparison of both types of training (face-to-face and online) will allow considering the phenomenon of illusion of effectiveness.

THEORETICAL FRAMEWORK

The current investigation is based on the assumption that assessment of training effectiveness through single-dimensional models proves to be insufficient. Instead, there is a need for an evaluation model that involves both participants' perceptions and observable outcomes. As such, the research will examine the relationship between the Kirkpatrick Model and satisfaction-based evaluation approach exemplified by Indeks Kepuasan Masyarakat in comparison with online and face-to-face training. Recent studies have emphasized that it is crucial to move from a reaction-based evaluation to the models involving behavioral and performance aspects (Salas et al., 2023; Blume et al., 2023).

Specifically, satisfaction will be viewed as a proximal construct representing participants' reaction to the training program. Satisfaction involves such components as quality of services provided by the organization (e.g., means of delivery, administrative procedures, and learning environment). Although satisfaction is used extensively as a key determinant of success in

learning programs, some authors note that it is only weakly correlated with learning transfer and performance outcomes (Sitzmann & Weinhardt, 2022; Kraiger & Ford, 2022). Empirical data indicate that online training (PJJ) results in higher levels of satisfaction compared to face-to-face training. Such findings can be explained by the convenience, flexibility, and accessibility of online programs. Still, these characteristics do not mean high effectiveness.

The second important element of the proposed model is behavioral change as an intermediate construct. This construct represents how effectively the participant internalizes and applies the knowledge and skills gained during training in a work environment. This construct relates to the third stage of the Kirkpatrick Model and plays a role of a key mechanism of translating training into outcomes. The introduction of behavioral change solves one of the key problems associated with satisfaction-based evaluations because it allows determining the degree of learning transfer. Contemporary research emphasizes that behavioral change and training transfer depend on such factors as learning engagement and interaction and context (Blume et al., 2023; Lim & Richardson, 2024; Park & Kim, 2024).

On the macro level, training impact is understood as the increase in job performance or other measures that may arise due to training, which can be quantified to some degree. Training impact thus represents the ultimate measure of training effectiveness and is equivalent to the results level under Kirkpatrick's model. The current research suggests that training impact will not be directly influenced by the participants' satisfaction. Instead, such impact will be achieved via behavioral change and will serve as a mediating factor.

As an integral part of the proposed research framework, there should be an account made of the differences between two training modes, namely online and face-to-face. More specifically, training mode serves as an explanatory factor, which explains differences in participant satisfaction and learning experience. Training mode will further be considered a moderating factor because it changes the effect that participant satisfaction has on training impact. According to this view, satisfaction will have a weaker positive influence on training impact in an online environment, as compared to a face-to-face environment.

The current theoretical orientation forces one to rethink assumptions regarding training effectiveness. More specifically, the study will suggest that satisfaction does not lead to higher effectiveness, but only when the latter is measured as behavioral change and training impact. On the contrary, in the present study, effectiveness is considered to depend on the process and context of learning, not merely participant satisfaction with training events and content. It is thus reasonable to assume the presence of an illusion of effectiveness: while training will yield high satisfaction among participants, it will not produce behavioral change.

In operational terms, training effectiveness can be considered a result of (1) participant satisfaction, (2) behavioral change, and (3) training impact, while training mode is viewed as a moderating factor in this equation. This theoretical framework can easily be used for empirical research purposes as it is clear and straightforward. Furthermore, this approach allows specifying relevant variables and conducting appropriate statistical analysis. Notably, all three types of data (participant satisfaction, behavior, and impact) will be collected at the same point in time (Q1 2025).

RESEARCH METHODOLOGY

In this case, the research design is based on a quantitative comparative model with an explanatory approach to examining whether there are differences in the effectiveness of training in terms of its modes – either online or face-to-face. The focus of this analysis lies with the relationship between participant satisfaction, behavioral changes, and training results, while the influence of training mode is considered a moderating variable. This approach enables the use of a multi-faceted examination of training effectiveness and the empirical verification of mediation and moderation effect hypotheses (Hair et al., 2022; Kline, 2023).

The use of secondary data will be used in this study, where the sources are the institutional database from the Religious Education and Training Center of Medan, Indonesia. The secondary data are gathered from institutional evaluations of training done using distance education or commonly known as Pendidikan dan Latihan Jarak Jauh (PJJ). Additionally, to increase the validity of the research and control the effects of other variables, only data obtained in the first quarter (Q1) of 2025 will be considered.

This is due to the belief that in the first quarter of the year, the participants in the survey are civil servants (PNS) and government contracted employees (PPPK), along with the general public who underwent both online and face-to-face trainings. Also, to ensure that there will be no interference of specific types of training such as latsar for PNS and orientation program for PPPK which are distinct from other trainings, data will only come from Q1.

The analysis will involve 117 respondents who participated in online training (PJJ) and 240 respondents involved in face-to-face training. Unequal numbers of responses have been selected due to the nature of the available data; however, it does not affect the validity of the analysis since this study employs mean scores and other inferential statistical approaches instead of aggregates. The respondent pool will consist of civil servants (PNS), government contract employees (PPPK), and members of the general public.

It is reasonable to conduct secondary data analysis because the data used have been collected through an institutionalized system for assessing the performance of organizations in the industry. The data have been collected under normal organizational activities. Hence, they provide high ecological validity. According to modern methodological sources, secondary data can show higher external validity and lower common method bias than primary survey research (Johnston, 2023; Smith, 2022). However, some limitations should be noted since there was no opportunity to develop the instrument independently and select variables to measure. Therefore, the main focus will be made on optimal data utilization.

Four key constructs were used to operationalize the concept of training effectiveness: training mode, satisfaction, behavioral change, and training impact. The first construct was introduced as an independent variable and as a moderator of the link between satisfaction and impact (Hayes, 2022). The second construct was measured using the Indeks Kepuasan Masyarakat, which assessed the respondents' views on the quality of service provided, including administrative issues, accessibility, and the training experience. Under this definition, satisfaction can be considered a starting point in the process of achieving what is defined as an illusion of training effectiveness.

Behavioral change was defined as a mediating construct that demonstrated how participants used the knowledge gained during training in practical situations at work. This concept could be viewed as a mediator between learning processes and outcomes (Blume et al., 2023). The training impact was selected as a dependent variable and described as an improvement in the performance of trainees in relation to their previous work results, which is the fourth level of the Kirkpatrick Model (Salas et al., 2023).

There was no need to collect primary data because all information had been collected with the help of institutional evaluation tools, including the Indeks Kepuasan Masyarakat (Johnston, 2023). Therefore, the study uses the approach of secondary data analysis. Analysis of the data was performed using descriptive and inferential statistics. The purpose of the descriptive analysis was to describe the characteristics of the respondents and their satisfaction levels. Comparisons were done using independent-samples t-tests to evaluate differences between online and in-person training (Field, 2023). The multiple regression analysis was performed to examine the associations between the variables, namely satisfaction, behavioral change, and the effects of the training (Hair et al., 2022). Also, moderation analysis was performed to determine if the mode of delivery has any effect on the strength of the association between satisfaction and the effects of training (Hayes, 2022).

RESULTS AND DISCUSSION

These findings show an apparent contradiction between participant satisfaction and training success in relation to various training approaches. The descriptive statistics have demonstrated that the highest level of participant satisfaction is shown by online training (distance learning/PJJ), where the average value of participants' ratings reached 94.41, while the average value of satisfaction with face-to-face training was slightly lower – 89.51. While this initial difference may be interpreted in favor of greater satisfaction, further analysis and data triangulation will show the contrary.

As far as the conclusions of the research are concerned, they are based on data triangulation which included three samples of respondents: participants of both types of training, training organizers conducting interviews after the training programs ended, and supervisors who assessed changes in behavior at work and their job performance. In order to get a broader idea about training implications, the input of supervisors in addition to participant interviews was used by training organizers. Another finding showed that face-to-face training is perceived as being in greater demand than online one.

To begin with, the discrepancy between satisfaction and effectiveness may be viewed as the "illusion of effectiveness." As for the high rating given to online training, it is explained not by better learning outcomes, but by its obvious advantages related to convenience, affordability, and accessibility. The information obtained through interviews with training organizers and supervisors shows that positive changes in terms of better job performance were more often noted after face-to-face training. Therefore, the participants were satisfied with the administration rather than with actual learning process.

However, lower levels of satisfaction with face-to-face training are associated with higher learning effectiveness due to the fact that such approach gives participants more opportunities for interacting and getting necessary feedback and engaging actively into learning process. All these findings confirm the results obtained by other researchers in terms of the significance of active involvement and interaction for successful training (Salas et al., 2023; Blume et al., 2023).

Firstly, one must note that according to the results of analysis, there is no regularity in the relationship between the degree of satisfaction and the actual effect on people. On the contrary, one can say that the relation is highly complicated and cannot be defined in linear terms. The presence of the link between the two elements depends on specific conditions. Training sessions conducted online demonstrate tendencies towards distraction, lack of interest and involvement, and a superficial approach to the educational process overall. Within the framework of North Sumatra, poor technological infrastructure and low levels of digital literacy play a huge role in this regard. In addition, the idea of flexibility and convenience might undermine people's commitment and responsibility and negatively impact their cognitive activity.

From an analytical standpoint, it is possible to conclude that the modality used as a form of training serves as a significant moderating element in the relation under analysis. Thus, the association under discussion is weak when participants are enrolled into online training sessions. The fact implies that in this case, the importance of intrinsic motivations decreases and extrinsic motivators gain dominance. Conversely, the face-to-face format allows for creating conditions necessary for engaging in the learning process.

Overall, there are some implications that must be discussed. Namely, the findings are especially relevant to current practices of evaluation in the public sector, where satisfaction and service-quality indicators are commonly used as the basis for estimating success. One can mention the example of the Indeks Kepuasan Masyarakat as the indicator. Nevertheless, in this case, it is possible to conclude that satisfaction as an indicator of performance and impact might provide distorted results since high level of satisfaction does not necessarily lead to success.

On the theoretical plane, the findings suggest that future development of the Kirkpatrick Model will benefit significantly if researchers integrate empirical evidence about the gap between the reaction level and other outcomes. Although the model is strong enough to be applied, the process does not consider all issues associated with training effectiveness.

As far as contributions to the existing discourse are concerned, the research provides insight into the issue of digital transformation and its impact on modern training techniques. The latter are very advantageous but should be evaluated not only according to their positive aspects. In addition, there are cultural and organizational aspects that make online training especially interesting from the perspective of developing countries, such as Indonesia.

Concluding remarks can be made by saying that, in this regard, the findings show that it is harder to determine training effectiveness than would be thought, since this factor cannot be simplified to reactions of those undergoing training in relation to certain events. The difference between reaction and actual behavior shows that the evaluation framework should be changed to measure behavioral effects too.

CONCLUSION

Based on the results of this research study, it is possible to suggest that training effectiveness should not be considered only based on participants' level of satisfaction. Despite the fact that PJJ provides higher satisfaction rates, the training outcomes do not lead to the corresponding increase in the depth of learning and subsequent behavioral change. The existence of a discrepancy highlights the phenomenon of illusion of effectiveness, which implies that the effectiveness is based on certain benefits and conveniences rather than on the real changes.

Thus, while face-to-face training can lead to better outcomes in terms of achieving behavioral change due to the opportunities for effective interaction and engagement, the level of satisfaction will be lower compared to PJJ. The current study suggests the necessity to abandon the common practices related to the assessment of training outcomes based on satisfaction rates measured with the help of tools such as the Indeks Kepuasan Masyarakat and instead focus on behavioral changes and achievements associated with them.

In terms of theoretical implications, the current research supports the phenomenon of the illusion of effectiveness as an approach to explaining the discrepancies between perceptions and reality related to training. As it was stated previously, there is a conditional connection between satisfaction and effectiveness, which is determined by the learning process and particular training conditions. As for practical implications, the institution needs to shift towards more effective policies that would emphasize interaction, engagement, and accountability in online training.

Overall, in times of digitalization, the issue is not about the efficiency of online training anymore, but its effectiveness. Otherwise, training systems are likely to become more and more efficient yet less and less effective. However, if this tendency is not addressed in time, this problem will persist. This issue is frequently discussed in the context of global initiatives on digital capacity development in the public sector (OECD, 2024; World Bank, 2025).

RECOMMENDATION

On the basis of the results obtained in this study, it is necessary to broaden the range of training evaluation frameworks by implementing a multi-source evaluation strategy including participants, training providers, and supervisors for a more objective evaluation of the degree of transferring of acquired knowledge and skills into practice and improved job performance. Thus, future evaluations of the training programs should consider not only participants' perceptions of learning processes but also their behavior and performance changes. Furthermore, training organizations should apply a selective approach when selecting the optimal training mode since the results have shown that not all competencies can be learned effectively in an online environment. Competencies, which involve intensive interactions, behavioral development, practical experience, collaboration, problem-solving, and immediate feedback, are more efficiently learned via face-to-face trainings. This means that digital transformation in training should be understood not as a replacement of face-to-face trainings with online learning programs but as the alignment of training modalities depending on the

specific of competencies to be developed. In this respect, blended learning can be considered as one of the possible strategies that can combine advantages of both online and face-to-face learning modes. Further researches can conduct longitudinal studies in order to evaluate the sustainability of training impacts and widen the field of analysis beyond individual training programs and public sector institutions. In this context, it is important to investigate the relationships between participants' satisfaction, learning process, behavioral changes, and job performance. Thus, digital transformation in training should be accompanied by a transformation of evaluation paradigms and instructional design approaches. The key question is not about whether online training should substitute face-to-face training or vice versa but about competencies, which can be developed efficiently using online training programs and those, which still require direct interactions. As has been shown, some of the competencies cannot be developed optimally in online environment, specifically those involving behavioral development, practical applications, collaboration, and intensive participation. This is why face-to-face trainings are still important and cannot be totally substituted by online training. Thus, successful training should be evaluated not only by participants' satisfaction but also by their behavioral changes and performance improvement. Public sector training policies should not be oriented on substitution of face-to-face learning with online learning but on appropriate use of each training modality according to the objectives and competencies to be achieved.

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