

Evaluating the Effectiveness of SEAMOLEC's Online Training Using the Kirkpatrick's Model

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Abstract

Training evaluation stands as a critical phase in the training process, dedicated to investigating and providing feedback for the conducted training over a certain period. This research aims to conduct online training evaluation level 3 and 4 using Kirkpatrick analysis framework for continuous improvement. The research investigates the effectiveness of SEAMOLEC's online training program using a comprehensive mixed-methods approach both quantitative and qualitative methodologies. The research findings aim to offer a thorough understanding of the training's impact on participants' behavior (level 3) and organizational results (level 4). The research utilizes questionnaires and interviews with alumni and the head of the organization as instruments. The analysis of the effectiveness of SEAMOLEC's online training programs revealed positive outcomes at both the individual and organizational levels. At the behavior level (level 3), parameters such as support (3.74), application of acquired knowledge (3.63), productivity improvement (3.68), relevance of the training (3.67), and knowledge-sharing practices (3.52) demonstrate favorable results. For organizational results (level 4), participants exhibit significant skill improvement (3.71), commendable job-related assistance (3.57), substantial collaboration success (3.71), and goal achievement (3.57). Through this holistic evaluation, the research seeks to offer valuable insights and recommendations for enhancing the quality and outcomes of SEAMOLEC's online training initiatives.

Keywords : Training Evaluation, Kirkpatrick Analysis Model, Effectiveness, Online Training.

Background

In the era of digital transformation, online training has emerged as a dynamic and accessible platform for anyone to pursue their professional development and skill enhancement. This paradigm shift towards online training is characterized by its adaptability, providing a diverse learning styles and accommodating various schedules. It was aligned with (Law, et al., 2023) mentioned that online training has the advantage of reduced dependence on geographical boundaries, high flexibility, fewer resource demands, high capacity of training provision simultaneously and relatively low cost. Through Online training, learners can access all the training resources which they need to take and allowing learners to study at their own pace and from anywhere with an internet connection. Online training can include various instructional methods such as video, interactive modules, online discussions, and assessments (Muhammad, et al., 2022).

Southeast Asian Ministers of Education Organization Regional Open Learning Center (SEAMO SEAMOLEC) consistently provides high-quality online training programs and stands out as a prominent player. All of the training programs provided by SEAMOLEC are open for public, accessible from anywhere, and free of charge. Based on data 2020-2022, SEAMOLEC has developed and implemented 9 courses Online Training Programs that are based on Massive Open Online Courses (MOOCs) namely: Kelas Daring Adaptasi Kebiasaan Baru (New Normal), Learning Management System (LMS), Pengembangan Video Pembelajaran, Media Pembelajaran

berbasis Ilustrasi Visual, Media Interaktif berbasis Ms. Powerpoint, Media Peraga Digital, Media Pembelajaran berbasis Mobile, Pelatihan Internet of Things (IOT) and Pembelajaran berbasis Web . Success full online training is one that's not only well-executed but also capable of achieving its goal, which is to improve or enhance the performance of the training participants (Kholik & Sembiring, 2022).

Evaluation is a crucial component in the implementation of training, aiming to review the training process that has been conducted over a certain period. Three reasons to evaluate training program: to improve the program, to maximize transfer of learning to behavior and subsequent organizational results and to demonstrate the value of training organizations (Kirkpatrick & Wendy , 2016). Evaluation helps identify strengths and weaknesses of online training programs, allowing for improvements and adjustments to be made based on learner feedback and identified needs. Continuous evaluation and feedback loops are important for ensuring the ongoing effectiveness and relevance of online training programs (Shera, et al.,2022).

Online training evaluation is one of the most significant programs of any organization, providing feedback in designing and reviewing any online training program. Indeed, evaluating the effectiveness of training courses helps the teacher or lecture to obtain a clearer picture about the quality of training activities and equips planners and training staff to be aware of the positive (Hojjati et al., 2013). The effectiveness of online training, particularly in the realm of distance education, has been a subject of substantial research. The studies have consistently highlighted the benefits of online training, emphasizing its ability to support diverse learning styles, promote self-directed learning, and facilitate continuous professional development. (Polsani, 2005).

Therefore, considering all the developed and implemented online training programs, SEAMOLEC needs to evaluate the effectiveness of their online training programs. The Kirkpatrick model can be used to evaluate the effectiveness of a training program by assessing four levels: reaction, learning, behavior, and results (Igor, et al., 2023). Therefore purpose of this article is to assess the effectiveness of SEAMOLEC's online training using the Kirkpatrick evaluation model at levels 3 and 4, namely behavior and results.

The findings from this analysis provide insights for the online training department (SEAMOLEC) regarding the effectiveness of online training and suggestions of the activities for online training that can be implemented.

Research Method

This research was conducted to assess the convenience and effectiveness of online learning, with the objective of making the learning process independent of location and facilitating lifelong learning for learners. This is achieved by integrating suitable technologies into the process to enhance the learning environment and improve its efficiency. The research methodology employed in this study is a mixed-methods approach, combining both quantitative and qualitative methods, with the embedded research strategy. To assess the effectiveness of SEAMOLEC's online training, a comprehensive analysis is conducted utilizing the Kirkpatrick model. The Kirkpatrick model is one of the best models applied in most training (Suraj & N, 2023) institutions to evaluate the effectiveness of training. This study is based on both primary and secondary data. Primary data were collected through a structured questionnaire to examine the perspectives of SEAMOLEC training alumni who have completed online training from SEAMOLEC. Secondary data were gathered from interview results with several SEAMOLEC training alumni and workplace supervisor from SEAMOLEC online training alumni.



Picture 1. Kirkpatrick training evaluation model.
Source: (Tamkin et al., 2002)

This methodology is endorsed in human resource development research (Gegenfurtner et al., 2020) with Mizikaci (Mizikaci, 2006) advocating for the integration of statistical analysis and qualitative research methods to achieve a comprehensive analysis. The modified model comprises four levels, with quantitative data (survey) used to evaluate two levels (reactions and learning) among alumni training online. The behavior level was assessed using both qualitative and quantitative data (open- and closed-ended questions) due to the nuanced nature of human behavior, which may not be adequately captured by a purely quantitative study. The results level was examined through qualitative, semi-structured interviews with supervisors. It is noteworthy that the evaluation of training program effectiveness relied on the perceptions of trainees and supervisors concerning these levels, and as such, fixed measurable approaches were not employed to assess behavioral changes or outcomes in this study.

Level	Learning in Training Programmes for Trainee Head Teachers	Measurement Instruments
Reaction	Trainees' reaction to trainers, training delivery and training environment	Questionnaire immediately after completion of training
Learning	Direct measures of learning outcomes achieved by trainees (knowledge, skills and attitudes)	Questionnaire immediately after completion of training
Behaviour	Measures of change in performance of trainees after completing training	Questionnaire that includes both open-ended and closed-ended questions, as well as interviews or observations to collect data from trainees and/or their supervisors three months after the completion of the training programme
Results	Personal development, development of leadership skills, effect on teacher development and effect on student achievement	Interviews with supervisors, conducted three months after the completion of the training programme

Picture

2. Adaptation of Kirkpatrick model evaluation training to teacher

Source: (Alsalamah & Callinan, 2021)

The data collection methodology employed for this study encompassed the utilization focus of effectiveness in this study is directed towards levels 3 and 4, behavior and results. Questionnaires, providing a comprehensive understanding of the impact and effectiveness of SEAMOLEC's online training program. Each questionnaire was strategically to delve into various facets of the training, ranging from immediate reactions to observed changes in professional practices among SEAMOLEC online training alumni.

The third level, assesses the application of knowledge and skills in the workplace, emphasizing that achieving positive final outcomes is contingent upon observing positive behavioral changes. Consequently, it is crucial to determine whether the knowledge, skills, and/or attitudes acquired in the program effectively transfer to the job. (Russell, 2020). According to Kirkpatrick and Kirkpatrick, when evaluating at Level 3, the evaluator must decide whether to employ interviews, questionnaires, or a combination of both. In this research, a questionnaire is utilized to measure quantitative data, and interviews with alumni are conducted to assess qualitative data. The questionnaire in this study uses a 4-point rating scale ranging from 1 (strongly disagree) to 4 (strongly agree). This section featured five open-ended questions, providing a qualitative dimension to the analysis. The responses aimed to gauge the behavioral changes among 193 online training alumni from various institutions associated with SEAMOLEC. Qualitative data, fundamental to understanding the depth of impact, were gathered through interviews with SEAMOLEC training alumni. This phase involved 27 questions generated based on the four open-ended questions utilized in the quantitative method, providing rich insights into the nuanced transformations experienced by the participants.

The fourth level, this level measures the effect of training on the organization. To determine the criteria for evaluating results of training in this study, it is necessary to consider the desired outcomes from the perspectives of multiple stakeholders; therefore, we need to understand who is to benefit from training (Nickols, 2005). 7 supervisors from the organizations where SEAMOLEC alumni originated were surveyed three months after the training program's completion. The questionnaire featured four open-ended questions, employing a measurement scale ranging from 4 (indicating change in over 75% of alumni) to 1 (reflecting change in over 25% of alumni). This allowed for a comprehensive assessment of the observed changes in professional practices among SEAMOLEC online training alumni.

The meticulous combination of quantitative and qualitative approaches, as outlined in the four questionnaires, ensures a robust and multi-dimensional evaluation of SEAMOLEC's online training program, contributing to the depth and richness of the study's findings. Tabel 1 summarises Data Collection tool and technique.

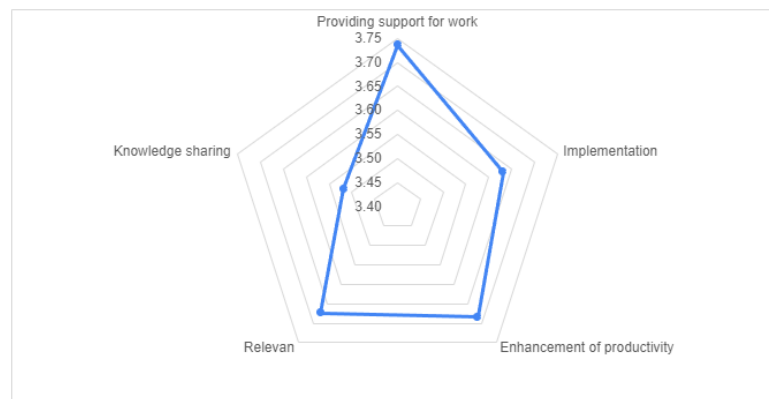
Table 1
Data Collection tool and technique

Parameters	Questions	Measurement Instruments
Behaviour: Measures of change in performance of trainees after completing training	Providing support for work	The questionnaire consists of five open-ended questions and interview with SEAMOLEC's online training alumni.
	Implementation	
	Enhancement of productivity	
	Relevan	
Results: Personal development, development of leadership skills, effect on teacher development and effect on student achievement	Knowledge sharing	Questionnaire and interviews with workplace supervisors of SEAMOLEC's online training alumni
	Participants who attended the training showed an improvement in skills relevant to the training program.	
	This training program has assisted participants in performing their responsibilities effectively.	
	Alumni are capable of contributing to the improvement of teamwork or interpersonal relationships in the workplace after completing the training program.	
	Following the training program, alumni can contribute more effectively to achieving pre-established goals and performance targets.	

Result and Discussion

Level 3: Behavior

The behaviour of the trainees was evaluated after completion of the training. At this level, the opinions of respondents were investigated using both qualitative and quantitative methods, via questionnaires with open-ended and closed-ended questions. The first question, addressing whether SEAMOLEC online training supports their work, garnered an impressive average score of 3.74. This indicates a strong alignment between the training content and the practical needs of the participants in their professional roles. The second question, assessing the application of training outcomes, received a commendable score of 3.63, suggesting that participants actively implement the knowledge and skills acquired during the training. Furthermore, the third question, focused on productivity improvement, yielded a noteworthy score of 3.68, indicating a positive impact on the efficiency of teaching tasks. The fourth question, addressing the relevance of the training, received a score of 3.67, reinforcing the program's suitability and applicability to the participants needs. Lastly, the fifth question, evaluating knowledge-sharing practices, received a respectable score of 3.52, indicating a positive inclination toward collaborative learning and knowledge dissemination. The consistently high scores across these parameters affirm the overall effectiveness and relevance of SEAMOLEC online training, emphasizing its positive impact on participants' work, productivity, and collaborative practices. Picture 3 presents the results of the closed-ended questions



Picture 3
Diagram of Effectiveness of SEAMOLEC Online Training – Level 3

SEAMOLEC training has been instrumental in elevating educators' competence and fostering continuous professional development. According to a recent impact study conducted in 2021 (Priyadi et al., 2021), participants reported a significant increase in their pedagogical skills and content knowledge. The structured modules and interactive sessions provided by SEAMOLEC were identified as crucial factors in shaping a more competent and confident educator. Testimonials from educators who have undergone SEAMOLEC training emphasize the acquisition of practical and relevant skills. These include the ability to design engaging technology-based learning materials, effectively utilizing various learning media, and enhancing creativity in integrating IT into their teaching practices. Interviews with SEAMOLEC online training alumni using 17 questions that hit 5 parameters can be presented in table 2.

Table 2
The interview results data

Parameters	Hits
Supporting work	Improve competence and professional development Gain useful skills Increase confidence in teaching Can utilize various learning media Increased creativity in using IT
Application of knowledge and skills	Creating technology-based learning materials Sharing knowledge with peers Forming learning group communities and teacher associations Participating in teaching material development competitions Development of teaching materials
Increased Productivity	Increased speed in completing projects or assignments Improvement in mastery of specific job-related skills Increased motivation to learn and improve performance Produce quality media – learning media used Increased efficiency in completing teaching tasks
Relevant	The material learned is appropriate to the needs of teaching SEAMOLEC training recognized as a career enhancing factor Played a significant role in achieving promotion.
Shared with others	Alumni contribute to teachers in certain areas by sharing knowledge learned through SEAMOLEC online training Carried out journal publication Learning media shared through YouTube videos

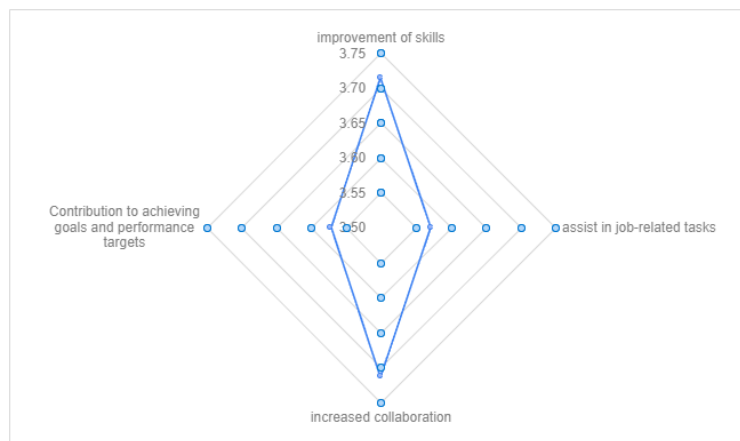
A study published In the Educational Leadership Journal in 2022 highlighted (Kirkpatrick, 2022) a noticeable increase in educators' confidence after participating in SEAMOLEC training. The immersive learning experiences and peer interactions provided a supportive environment that empowered educators to apply innovative teaching techniques with assurance. An analysis of the impact of SEAMOLEC training on teaching material development revealed a surge in educators creating technology-based learning materials. The collaborative nature of the training facilitated the sharing of knowledge with peers, leading to the formation of learning groups and teacher associations dedicated to advancing teaching practices. Results from a productivity survey conducted in 2023 indicated a substantial increase in the speed of completing projects and assignments post-SEAMOLEC training.

Educators reported improved mastery of job-related skills, heightened motivation, and an overall increase in efficiency in completing teaching tasks. According to a relevance assessment conducted in 2022, (UNEP, 2022) educators overwhelmingly found that the materials learned in SEAMOLEC training directly addressed the needs of teaching. The training was recognized as a career-enhancing factor, with a significant number of participants attributing their promotions to the skills acquired through SEAMOLEC. The collaborative spirit fostered by SEAMOLEC training extends beyond the individual educator.

The report on collaborative initiatives among educators in 2023 (Pozas & Letzel-Alt, 2023) highlighted contributions by alumni, including knowledge-sharing through SEAMOLEC online training, journal publications, and the creation of learning media shared through platforms like YouTube. SEAMOLEC training emerges not only as a catalyst for individual educator development but also as a force that positively influences the broader educational community. The evidence presented from various resources underscores the significance of SEAMOLEC in shaping competent, confident, and collaborative educators, ultimately contributing to the advancement of teaching practices and educational outcomes.

Level 4: Result

The final level was explored through interviews with the 7 supervisors. The data collected from supervisors of SEAMOLEC online training alumni through a survey, using a 4-point scale where 4 represents the highest score, offers valuable insights into the perceived impact of the program on participants. The survey results indicate a positive and substantial influence of SEAMOLEC online training on various aspects of alumni performance in their professional roles. Firstly, the survey question addressing the improvement of skills among SEAMOLEC online training alumni received a noteworthy score of 3.71. This suggests a significant enhancement in the skillset of participants, indicating that the training effectively equips them with relevant and applicable skills for their work. The second question, which evaluates the extent to which SEAMOLEC alumni assist in job-related tasks, garnered a commendable score of 3.57. This emphasizes that the trained individuals actively contribute to their workplaces, providing valuable assistance and positively impacting the overall workflow. Furthermore, the third question, focusing on increased collaboration, also received a substantial score of 3.71. This underscores the program's success in fostering teamwork and cooperation among alumni, contributing to a more collaborative work environment. Lastly, the question regarding the contribution of SEAMOLEC alumni to achieving work goals and targets received a score of 3.57. This suggests that the training not only equips participants with skills but also empowers them to contribute meaningfully to the attainment of organizational objectives. The score obtained from the analysis of the questionnaire from the supervisor shows that there are 51% - 71% of seamolec training alumni in the organization showing changes in the 4 aspects assessed in the results section. Consistently positive scores across these parameters affirm the effectiveness of SEAMOLEC online training in skill enhancement, practical job assistance, fostering collaboration, and contributing to the achievement of professional goals.



Picture 4
Diagram of Effectiveness of SEAMOLEC Online Training - Level

In interviews the supervisor has provided feedback indicating that alumni training online SEAMOLEC have shown improvement in the development of instructional media. Notably, some SEAMOLEC alumni have achieved significant accomplishments. This positive impact extends to the enhanced performance of SEAMOLEC alumni in designing more engaging classroom lessons. From the supervisor's perspective, the online training from SEAMOLEC has not only positively influenced the work performance of alumni but has also contributed to peer collaboration through the sharing of training outcomes.

Additionally, the supervisor has suggested increasing the training quota and the number of participants eligible for SEAMOLEC's online training. This recommendation reflects the recognition of the program's effectiveness and the desire to extend its benefits to a larger audience. Overall, the feedback from the supervisor underscores the success of SEAMOLEC's online training in fostering professional development and collaborative learning among educators.

Conclusion and Suggestion

Effectiveness study of SEAMOLEC online training shows resounding success in improving educators' skills, productivity, and collaborative practices. The results from the five crucial parameters, support for work, application of training outcomes, productivity improvement, relevance of the training, and knowledge-sharing practices consistently yield elevated average scores, solidifying the program's overall effectiveness. This scores between the training content and the practical needs of participants in their professional roles. The impact is further elucidated through a triangulation of quantitative data and the comprehensive parameters presented in Table 2. This data accentuates the transformative effects of SEAMOLEC training on educators, encompassing advancements in competence, professional development, the acquisition of practical skills, heightened confidence in teaching, and the creative utilization of various learning media, particularly in seamlessly integrating IT into teaching practices. SEAMOLEC's online training effectiveness study demonstrated resounding success in improving educators' skills, productivity and collaborative practices. The results of the five critical parameters of job support, application of training outcomes, productivity gains, relevance of training, and knowledge sharing practices consistently yielded high mean scores, thus reinforcing the overall effectiveness of the program. The impact is further elucidated through the triangulation of quantitative data and comprehensive parameters presented in Table 2. These data emphasize the transformative effects of SEAMOLEC's training on educators, which include advances in competencies, professional development, acquisition of practical skills, increased confidence in teaching, and creative utilization of various learning media, especially in integrating IT into teaching practices. While SEAMOLEC's online training has shown remarkable success, there are still opportunities for continuous improvement and expansion. Some suggestions to increase the impact of this program include adjusting and specializing the training content to meet specific needs, such as numeracy and literacy, ensuring a more targeted and personalized learning experience for the participants in terms of participants' readiness for online training such as age issues in accessing online training and evaluation. Furthermore, fostering enhanced collaborative opportunities by facilitating more structured collaborative projects and forums among participants can encourage

ongoing knowledge-sharing and cooperation even after the training concludes. Establishing a robust and continuous feedback involving participants, supervisors, and other stakeholders is crucial to gather insights for iterative improvements to the program. This ensures that SEAMOLEC remains responsive to the evolving needs of educators..

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