

Effectiveness Analysis of Competency-Based and Non-Competency-Based Training at the Lampung Agricultural Training Center

(Analisis Efektivitas Pelatihan Berbasis Uji Kompetensi dan Non-Kompetensi di Balai Pelatihan Pertanian Lampung)

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Abstract:

The 2026 policy transition of Indonesian civil servants (ASN) from structural to technical functional positions in the agricultural sector necessitated rapid competency adjustment to support national food security targets. In response, the Lampung Agricultural Training Center (Balai Pelatihan Pertanian/BPP Lampung), functioning as an official Competency Testing Site (Tempat Uji Kompetensi/TUK), shifted its training scheme from Non-Competency-Based Training (Fiscal Year 2025) to Competency Certification-Based Training (Fiscal Year 2026), yet no empirical study had statistically compared the effectiveness of the two schemes among the same cohort.

Objective : This study examines the difference in training effectiveness between the two schemes using the Kirkpatrick Evaluation Model across three levels Reaction (Level 1), Learning (Level 2), and Behavior (Level 3) as well as overall effectiveness, at BPP Lampung.

Methodology : A quantitative approach employing a longitudinal comparative descriptive design (pre-post paired design) was applied to 60 training participants who underwent both schemes, using a total sampling (census) technique. Data were collected through Likert-scale questionnaires and secondary examination-score records, tested for validity (corrected item-total correlation), reliability (Cronbach's Alpha), and normality (Shapiro-Wilk), and were subsequently analyzed using the Wilcoxon

Signed-Ranks Test following a non-normal distribution finding.

Research Results : No statistically significant difference was found at the Reaction level (Asymp. Sig. = 0.051) or the Behavior level (Asymp. Sig. = 0.417), whereas statistically significant differences were found at the Learning level (Asymp. Sig. = 0.000, mean Normalized Gain = 0.45) and in overall effectiveness (Asymp. Sig. = 0.000). The transition to Competency-Based Training exerts its most pronounced impact on cognitive capacity development and aggregate program effectiveness, while its influence on participants' initial satisfaction and observable behavioral change remains limited in the short term.

Keywords: Training Effectiveness; Kirkpatrick Model; Competency-Based Training; Wilcoxon Signed-Ranks Test; Longitudinal Comparative Analysis.

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1. Introduction

Indonesia's economic development remains anchored in agriculture, particularly in safeguarding national food security and improving public welfare. The sector nevertheless faces serious challenges, including the degradation of productive land, low technology adoption, and a declining interest among younger generations in farming. President Prabowo Subianto has affirmed that food security will remain a top governmental priority in the first two to three years of his administration, reinforcing the demand for a modern, efficient, and sustainable agricultural sector underpinned by competent, adaptive human resources.

The Lampung Agricultural Training Center (Balai Pelatihan Pertanian/BPP Lampung) plays a strategic role in developing the competence of agricultural human resources in the province, one of its flagship activities being professional certification training. Under Government Regulation No. 10 of 2018 on the National Professional Certification Body (BNSP), competency certification is a systematic and objective process of granting a certificate of competence based on the National Work Competency Standards (SKKNI). In this capacity BPP Lampung also functions as an accredited Competency Testing Site (Tempat Uji Kompetensi/TUK), delivering

training through a hybrid scheme that combines online conceptual instruction with face-to-face competency testing.

The effectiveness of any training program is shaped not only by curriculum and facilities but also by the design orientation of the program itself whether it emphasizes a general theoretical understanding (non-competency-based) or a structured demonstration of a defined occupational standard (competency-based). Kirkpatrick's (1956) four-level evaluation framework holds that participants' reaction to a program forms the foundation for subsequent learning and behavioral change; a preliminary recap of BPP Lampung's 2024 training evaluation showed an overall satisfaction score of 4.34 (good), yet several operational aspects particularly the systematics of material presentation (3.95) scored below the institutional average, signalling room for more standardized training design.

BPP Lampung's training scheme has itself undergone a marked transition: in Fiscal Year (FY) 2025 training was dominated by non-competency-based instruction emphasizing general cognitive knowledge, whereas in FY 2026 the scheme was accelerated toward Competency-Based Training referring to the latest SKKNI, in which participants' knowledge, skills, and professional attitude are tested systematically and objectively. This shift coincided with Presidential Instruction (Inpres) No. 3 of 2025 on bureaucratic delayering, which converted structural civil-service positions into technical functional ones and required many former structural officials to rapidly master field-level agricultural extension competencies creating a pronounced competency gap that the certification-based scheme is intended to close.

Despite this significant transition, no empirical study has statistically compared the effectiveness of the two training schemes Non-Competency-Based Training (FY 2025) and Competency-Based Training (FY 2026) within the same cohort of participants at BPP Lampung. Prior evaluations at the institution ([Septiana 2022](#)) examined a single training cohort using Kirkpatrick Levels 1 and 2 without a longitudinal comparative design, while broader Kirkpatrick-based studies ([Nurul et al. 2025](#); [Bahl, Kiran and Sharma 2024](#); [Salsabila and Hertati 2022](#); [Lestari and Safitri 2022](#)) have not

specifically examined a competency-based versus non-competency-based transition among the same respondents over time. This gap motivates the present study.

Based on this research gap, this study aims to (1) analyze and demonstrate whether a significant difference in training effectiveness exists between the two schemes in terms of participant Reaction (Level 1); (2) analyze the difference in terms of Learning (Level 2); (3) analyze the difference in terms of Behavior (Level 3); and (4) analyze the difference in terms of Overall Effectiveness, at the Lampung Agricultural Training Center. The study is grounded in Human Capital Theory ([Schultz 1961](#); [Becker 1964](#); [Krawczyński et al. 2025](#)), which frames training and certification not as an operating expense but as a strategic investment expected to yield a measurable return in the cognitive capability, functional skill, and adaptive behavior of the public-sector workforce ([Pasamar, Diaz-Fernandez, and Rosa-Navarro 2019](#)).

Accordingly, this article is expected to contribute empirically to policymakers in civil-service training institutions who are designing or scaling up competency-based training programs, particularly regarding the strengthening of post-training behavioral transfer.

2. Research Method

This study employs a quantitative approach using a Longitudinal Comparative Descriptive method. Quantitative research uses numerical data analyzed statistically to test relationships between variables and to draw conclusions from empirical evidence ([Bougie and Uma 2020](#)). A Pre-Post Paired Design (matched-sample design) was applied, in which the same group of subjects was observed and assessed under two different time periods and treatment schemes: Non-Competency-Based Training in FY 2025 and Competency-Based Training in FY 2026.

The study was conducted at BPP Lampung, Lampung Province, over the even semester of the 2026 academic year, with primary and secondary data collected from May to June 2026. The population comprised all civil servants (ASN) under the Ministry of Agriculture who longitudinally participated in both training schemes at BPP Lampung, totaling 60 people. Because the design requires paired data from the

same subjects, a total sampling (census) technique was used, in line with (Sugiyono 2020), who recommends a census whenever the population is fewer than 100; hence all 60 participants served as respondents.

Primary data were collected through a structured, Likert-scaled (1–5) questionnaire distributed online and in person, covering the Reaction (Level 1) and Behavior (Level 3) constructs, while secondary data consisted of the archived FY 2025 written-examination scores and the FY 2026 BNSP-licensed competency test scores used for the Learning (Level 2) construct. Table 1 summarizes the operational definition of the research variables.

Table 1. Operational Definition of Research Variables

Variable	Operational Definition	Indicative Dimensions	Source/Scale
Level 1: Reaction	Participants' perceived satisfaction and psychological response to the components of training delivery.	FY 2025: satisfaction with theoretical content, basic trainer competence, generic hybrid method, standard handouts. FY 2026: satisfaction with SKKNI-based content, reliability of field practice simulation, objectivity of the competency test, applied functional modules.	Primary data; Likert scale 1–5
Level 2: Learning	The gain in academic capacity, cognitive insight, and technical ability of participants before and after the program.	FY 2025: final written cognitive examination score of the basic functional training. FY 2026: professional-certification performance-test score.	Secondary data (institutional records)
Level 3: Behavior	The degree of training transfer reflected in participants' ability to apply new functional technical skills in daily duties.	Confidence in applying competency standards; accuracy of Planted-Area-Expansion (LTT) reporting to the ministry; timeliness of functional performance reports under new regulations; independent problem-solving using SOPs; professionalism in providing technical guidance to farmers.	Primary data; Likert scale 1–5
Overall Effectiveness	The composite/aggregate score of the three Kirkpatrick levels above, compared	Sum/average of standardized Level 1, Level 2, and Level 3 scores.	Composite of primary and secondary data

Variable	Operational Definition	Indicative Dimensions	Source/Scale
	between the FY 2025 and FY 2026 schemes.		

Data were analyzed with IBM SPSS 26 following several stages. First, descriptive analysis characterized the 60 respondents by education level, tenure, functional position before and after Inpres No. 3/2025, and professional grade. Second, the Level 1 and Level 3 instruments were tested for construct validity using corrected item-total (Pearson product-moment) correlation against an r -table of 0.254 ($n = 60$, $\alpha = 5\%$), and for internal-consistency reliability using Cronbach's Alpha (threshold > 0.60); Level 2 was excluded from this step because it relies on officially issued institutional examination and certification records rather than a self-administered instrument.

Third, a normality test was performed on the paired-difference scores using the Shapiro-Wilk statistic (appropriate for $n = 60 < 100$), with data considered normally distributed if $\text{Sig.} > 0.05$. Because the assumption of normality was violated, the parametric Paired-Sample t -Test could not be used and the analysis proceeded, as recommended by (Ghozali 2021), with its non-parametric equivalent, the Wilcoxon Signed-Ranks Test, which does not require a normal distribution and remains capable of detecting significant differences between two paired groups. Decision criteria were: if $\text{Sig.} > 0.05$, H_0 is accepted (no significant difference); if $\text{Sig.} < 0.05$, H_0 is rejected (a significant difference exists). For Level 2, the magnitude of cognitive improvement was further examined using the Normalized Learning Gain Score (Hake 1998) :

$$g = (S_{\text{post}} - S_{\text{pre}}) / (S_{\text{max}} - S_{\text{pre}})$$

where S_{post} and S_{pre} are the mean post-test and pre-test scores and S_{max} is the maximum attainable score; g values are categorized as high ($g > 0.70$), moderate ($0.30 \leq g \leq 0.70$), and low ($g < 0.30$).

3. Results and Discussion

3.1 Institutional Context: BPP Lampung and Its Role as an Official Competency Testing Site

BPP Lampung is an Echelon III technical implementation unit under the Agricultural Extension and Human Resources Development Agency (BPPSDMP), Ministry of Agriculture, located along the Trans-Sumatra corridor in Natar, South Lampung Regency. Its mandate covers functional training for government apparatus including Agricultural Extension Officers, Agricultural Product Quality Controllers, and Plant Pest Organism Controllers as well as technical and professional training for non-apparatus groups such as young farmers and managers of self-help Village Agricultural Training Centers (P4S).

The institution operates hybrid classrooms, practice fields, dormitories, and an integrated information system, and is certified to ISO 9001:2015 (Quality Management) and ISO 37001:2016 (Anti-Bribery Management).

As the shift toward a merit-based, competency-driven civil service accelerated, BPP Lampung expanded its role beyond that of a training provider to become a licensed Competency Testing Site (TUK), accredited by an agricultural Professional Certification Body (LSP) under BNSP. In this capacity the institution independently assesses whether an ASN possesses the integrated knowledge, skill, and professional attitude required by SKKNI, issuing a binding “competent” or “not yet competent” decision that underpins career progression, credit-point adjustment, and functional accountability.

This TUK role became especially critical after Inpres No. 3 of 2025 converted many structural (Echelon III/IV) positions into technical functional ones, exposing a competency gap among former structural officials now required to master field extension and reporting duties.

3.2 Respondent Characteristics

The 60 respondents were dominated by holders of a bachelor's degree (63.3%), with the remainder holding a master's degree (36.7%), and by mid-to-senior tenure of 10–

20 years (80.0%), followed by under 10 years (11.7%) and over 20 years (8.3%). Before Inpres No. 3/2025, 85.0% of respondents already held functional (technical/extension) positions and 15.0% held structural (managerial) positions; after the policy, all 60 respondents (100%) held functional positions, distributed across the professional grades of Ahli Muda (60.0%), Ahli Madya (38.3%), and Ahli Pertama (1.7%).

This profile indicates a highly educated, experienced, and now fully functionalized workforce, in which the minority of former structural officials constitutes the core transition group whose adaptation this longitudinal design was intended to examine.

3.3 Instrument and Assumption Testing

Construct validity was tested using corrected item-total correlation for the Level 1 (8 items) and Level 3 (7 items) instruments. All items produced r -counts well above the r -table of 0.254 (Level 1: 0.785–0.920; Level 3: 0.871–0.941 across both periods), confirming that every item was valid. Reliability, assessed with Cronbach's Alpha, likewise exceeded the 0.60 threshold by a wide margin: 0.950 (Level 1, FY 2025), 0.952 (Level 1, FY 2026), and 0.966 (Level 3, both periods), indicating excellent internal consistency.

The Shapiro-Wilk normality test ($n = 60$) showed that seven of the eight paired variables Reaction 2025/2026, Learning 2025/2026, Behavior 2025/2026, and Total 2026 were not normally distributed (Sig. < 0.05); only Total 2025 approximated a normal distribution (Sig. = 0.096). Because the assumption of normality was violated for the majority of the paired variables, the non-parametric Wilcoxon Signed-Ranks Test was used for all subsequent hypothesis testing, consistent with the procedure described in Section 2.

3.4 Comparative Effectiveness Testing (Wilcoxon Signed-Ranks Test)

Table 2 summarizes the direction of change (negative ranks, positive ranks, and ties) for the four paired variables across the 60 respondents, and Table 3 presents the corresponding inferential test statistics.

Table 2. Summary of Wilcoxon Signed Ranks (2026 vs 2025)

Variable Pair	Category	N	Mean Rank	Sum of Ranks
Reaction 2026 – Reaction 2025	Negative Ranks	7	7.57	53.00
	Positive Ranks	13	12.08	157.00
	Ties	40	–	–
Learning 2026 – Learning 2025	Negative Ranks	2	5.00	10.00
	Positive Ranks	53	28.87	1530.00
	Ties	5	–	–
Behavior 2026 – Behavior 2025	Negative Ranks	9	10.28	92.50
	Positive Ranks	12	11.54	138.50
	Ties	39	–	–
Total 2026 – Total 2025	Negative Ranks	8	10.00	80.00
	Positive Ranks	49	32.10	1573.00
	Ties	3	–	–

Source: primary and secondary data processed with SPSS, 2026 (n = 60 for each pair).

Table 3. Wilcoxon Test Statistics

Indicator	Reaction 2026–Reaction 2025	Learning 2026–Learning 2025	Behavior 2026–Behavior 2025	Total 2026–Total 2025
Z	–1.950	–6.372	–.811	–5.932
Asymp. Sig. (2-tailed)	0.051	0.000	0.417	0.000

Source: primary and secondary data processed with SPSS, 2026.

Descriptively, Learning and Total effectiveness are dominated by positive ranks, indicating that a large majority of respondents improved from FY 2025 to FY 2026, whereas Reaction and Behavior are dominated by ties, indicating relatively stable scores across the two periods. The Z and Asymp. Sig. values in Table 3 provide the inferential basis for the hypothesis decisions discussed in the following sub-sections.

3.5 Level 1: Reaction

For H1, 7 respondents rated the FY 2026 Competency-Based Training lower than FY 2025 (Mean Rank 7.57, Sum of Ranks 53.00), 13 rated it higher (Mean Rank 12.08, Sum of Ranks 157.00), and 40 gave identical scores. The resulting Z = –1.950 with

Asymp. Sig. = 0.051 exceeds the 0.05 threshold, so H_0 is accepted and H_1 is rejected: there is no statistically significant difference in participant satisfaction (Reaction) between the two schemes, although the descriptive trend is marginally positive.

This finding indicates that BPP Lampung succeeded in maintaining a consistently high level of participant satisfaction even as the training design shifted radically toward stricter SKKNI content and BNSP assessment. The result is consistent with [\(Septiana 2022\)](#), who found that reaction-level satisfaction at BPP Lampung is shaped more by trainer service quality and a conducive learning atmosphere than by curriculum standards per se, and contrasts with [\(Salsabila and Hertati 2022\)](#), whose competency-based scheme at UPTD BLK Kotawaringin Timur was constrained by aging facilities underscoring that satisfaction outcomes under competency-based training depend heavily on each institution's supporting infrastructure, in line with [\(Bahl, Kiran and Sharma 2024\)](#).

Theoretically, this stability is better explained by service-quality/expectancy-confirmation perspectives than by Human Capital Theory, since it concerns affective satisfaction rather than productivity return; the practical implication for BPP Lampung is to keep investing in TUK facilitation and facilities as the foundation for sustained positive reactions regardless of future increases in competency-content difficulty.

3.6 Level 2: Learning

For H_2 , only 2 respondents scored lower in FY 2026 (Mean Rank 5.00, Sum of Ranks 10.00), while 53 scored higher (Mean Rank 28.87, Sum of Ranks 1530.00) and 5 were tied. With $Z = -6.372$ and Asymp. Sig. = 0.000 (< 0.05), H_0 is rejected and H_2 is accepted: there is a highly significant difference in learning achievement, strongly favoring the Competency-Based Training scheme.

The Normalized Learning Gain analysis reinforces this result (Table 4): the mean gain index was $g = 0.45$ (moderate/"fairly effective" category per [Hake 1998](#)), with 19 respondents (31.67%) in the high category, 14 (23.33%) in the moderate category, and 27 (45.0%) in the low category.

Table 4. Distribution of Normalized Learning Gain (Level 2) Categories

N-Gain (g) Range	Category	Frequency	Percentage (%)
$g > 0.70$	High	19	31.67
$0.30 \leq g \leq 0.70$	Moderate	14	23.33
$g < 0.30$	Low	27	45.00
Total	–	60	100.00

Source: secondary examination data processed in Excel, 2026. Mean $g = 0.45$.

The shift from a conventional written cognitive test to a Competency-Based Assessment (CBA) built on SKKNI performance criteria is the principal driver of this gain, corroborating (Septiana 2022), who reported a comparable within-institution jump from a pre-test mean of 47.00 to a post-test mean of 94.70; (Salsabila and Hertati 2022), who reported a 92% certification pass rate under competency-standardized teaching; and (Lestari and Safitri 2022), who validated cognitive, affective, and psychomotor gains from functional agricultural training.

Of the three Kirkpatrick levels examined, Learning provides the strongest confirmation of Human Capital Theory, because SKKNI-based training represents a specific human-capital investment directly aligned with job-relevant technical competence, yielding a markedly higher and more measurable return than general instruction. Practically, BPP Lampung should institutionalize CBA as its principal assessment method across all functional programs, and the Ministry of Agriculture may consider replicating the model at other regional training centers.

3.7 Level 3: Behavior

For H3, 9 respondents showed a slight decline in field behavior in FY 2026 (Mean Rank 10.28, Sum of Ranks 92.50), 12 showed improvement (Mean Rank 11.54, Sum of Ranks 138.50), and 39 remained unchanged. With $Z = -.811$ and Asymp. Sig. = 0.417 ($>> 0.05$), H_0 is accepted and H3 is rejected: no statistically significant difference in operational work behavior was found between the two schemes in the short term.

This finding aligns with (Nurul et al. 2025), who likewise found behavior-level effectiveness the least optimal Kirkpatrick dimension owing to external absorption

barriers in the workplace, and with (Bahl, Kiran and Sharma 2024), who found post-training behavioral transfer stronger among managerial than non-managerial employees relevant here because part of the cohort consists of former structural officials now in non-managerial functional roles.

It diverges from (Lestari and Safitri 2022), where concrete extension-officer behavior formed more readily, a difference plausibly explained by contrasting organizational contexts and transition phases. Theoretically, this stagnation is better explained by (Baldwin and Ford's 1988) Transfer-of-Training framework in which transfer depends jointly on trainee characteristics, training design, and the workplace transfer climate than by Human Capital Theory alone, implying that the shortfall reflects an insufficiently conducive transfer climate rather than a lack of individual competence.

Practically, BPP Lampung should strengthen post-training reinforcement mechanisms: field coaching/mentoring, streamlined digital performance-reporting systems, and a stronger role for Work-Team Leaders (Katimker) in embedding certified competencies into daily practice.

3.8 Overall Training Effectiveness

For H4, 8 respondents recorded a lower composite score in FY 2026 (Mean Rank 10.00, Sum of Ranks 80.00), 49 recorded a higher composite score (Mean Rank 32.10, Sum of Ranks 1573.00), and 3 were tied. With $Z = -5.932$ and Asymp. Sig. = 0.000 (< 0.05), H_0 is rejected and H4 is accepted: the transition to Competency-Based Training produced a statistically significant improvement in overall training effectiveness at BPP Lampung, driven principally by the very strong Level 2 gain, which was large enough to outweigh the non-significant Level 1 and Level 3 results in the aggregate score.

Table 5. Summary of Hypothesis Testing Results

Hypothesis	Dimension	Asymp. Sig. (2-tailed)	Decision	Conclusion
H1	Reaction	0.051	H_0 accepted	No significant difference
H2	Learning	0.000	H_0 rejected	Significant difference
H3	Behavior	0.417	H_0 accepted	No significant difference

Hypothesis	Dimension	Asymp. Sig. (2-tailed)	Decision	Conclusion
H4	Overall Effectiveness	0.000	H ₀ rejected	Significant difference

Source: primary and secondary data processed with SPSS/Excel, 2026.

Overall, of the four hypotheses tested, two (H2 and H4) were statistically significant while two (H1 and H3) were not, indicating that the advantage of Competency-Based Training over Non-Competency-Based Training is most evident in cognitive learning achievement and in aggregate effectiveness, but not yet strong enough to significantly shift initial satisfaction or observable work behavior.

This pattern is consistent with (Bahl, Kiran and Sharma 2024), who found the levels of the Kirkpatrick model to be interlinked in building an organization's total training performance, and with (Nurul et al. 2025), who tied holistic public-training quality to outcome-based managerial alignment. Viewed through Strategic Human Resource Management (Wright and McMahan 1992), the aggregate gain reflects not competency training alone but its alignment with organizational mechanisms clear work-instruction division before and after Inpres, an equitable workload-based incentive structure, and active Katimker leadership that together convert individual competency gains into organizational performance.

3.9 Positioning Relative to Prior Empirical Studies

Table 6 positions the present study's findings against related Kirkpatrick-based evaluations of Indonesian public training institutions.

Table 6. Mapping of Related Empirical Studies

Study	Setting/Method	Key Result
(Nurul et al. 2025)	Descriptive qualitative-quantitative, Kirkpatrick R-L-B-R, n = 129	Effectiveness judged not yet optimal, particularly at the Behavior/Results levels linked to alumni job placement
(Lestari and Safitri 2022)	Descriptive field survey/interview, n = 30 extension officers	Basic Expert Training improved cognitive/affective/psychomotor competence; concrete behavioral output in annual work-plan preparation

Study	Setting/Method	Key Result
(Salsabila and Hertati 2022)	Qualitative, Simamora criteria (Reaction-Learning-Behavior-Result)	Not fully effective owing to facility constraints (Reaction), but 92% certification pass rate (Learning/Result)
(Septiana 2022)	Quantitative survey, Kirkpatrick Levels 1-2, BPP Lampung, n = 30	Very effective Reaction; sharp pre-test-to-post-test jump (47.00 → 94.70)
(Bahl, Kiran and Sharma 2024)	SEM-PLS, Kirkpatrick R-L-B-Results, n = 402 bank employees	Reaction positively drives Levels 2-4; effect stronger for managerial ($R^2 = 0.733$) than non-managerial staff ($R^2 = 0.573$)
(This study 2026)	Wilcoxon Signed-Ranks Test, longitudinal pre-post paired design, n = 60, BPP Lampung	Significant gain in Learning and Overall Effectiveness; Reaction and Behavior not yet significantly different

Source: synthesized by the authors from the cited studies and the present dataset, 2026.

Compared with these studies, the present research contributes a rare within-institution, longitudinal, paired-sample comparison of two training schemes administered to the same cohort a design that more directly isolates the effect of the competency-based transition than the cross-sectional designs used in most prior Kirkpatrick evaluations of Indonesian public training centers.

4. Conclusion

Based on the longitudinal comparative analysis using the Wilcoxon Signed-Ranks Test and the Normalized Learning Gain Score, four conclusions are drawn. First, for Level 1 (Reaction), H_0 is accepted and H_1 is rejected (Asymp. Sig. = 0.051); no significant difference in participant satisfaction was found between Non-Competency-Based Training (FY 2025) and Competency-Based Training (FY 2026) at BPP Lampung, despite a slight descriptive improvement. Second, for Level 2 (Learning), H_0 is rejected and H_2 is accepted (Asymp. Sig. = 0.000); a significant difference in learning achievement favors the FY 2026 scheme.

Third, for Level 3 (Behavior), H_0 is accepted and H_3 is rejected (Asymp. Sig. = 0.417); no significant difference in field work behavior was found between the two schemes. Fourth, for Overall Effectiveness, H_0 is rejected and H_4 is accepted (Asymp. Sig. = 0.000); the transition to Competency-Based Training is associated with a significant improvement in aggregate training effectiveness.

In sum, the transition to Competency-Based Training at BPP Lampung has its most tangible impact on cognitive/learning capacity and on overall program effectiveness, but has not yet produced a statistically significant shift in participants' initial satisfaction or in their observable field work behavior in the short term following certification.

5. Implication, Limitations, And Suggestions

Theoretically, the strong Level 2 result confirms Human Capital Theory most directly, as SKKNI-based training constitutes a specific human-capital investment with a clearly measurable cognitive return; the non-significant Reaction result is better explained by service-quality/expectancy-confirmation perspectives, and the non-significant Behavior result is better explained by the Transfer-of-Training framework (Baldwin and Ford 1988), which emphasizes the role of workplace transfer climate alongside individual competence. Managerially, BPP Lampung has an evidence-based rationale to continue and expand SKKNI/BNSP-based Competency Training as its principal institutional strategy, while pairing it with deliberate mechanisms post-training coaching, simplified performance-reporting templates, and stronger Katimker leadership to convert cognitive gains into durable behavioral change.

Three priority areas emerge from the item-level results. First, because the hybrid/practical learning method received the lowest average rating among reaction indicators, BPP Lampung should increase the proportion of practice/simulation sessions relative to theoretical delivery and develop a more interactive, contextualized hybrid module combining face-to-face, digital, and field-practice components. Second, because the ability to prepare accurate and timely functional performance reports under the new ministerial regulations consistently scored lowest among behavior indicators in both schemes, the institution should hold dedicated technical workshops on report preparation and provide simplified, standardized reporting templates. Third, because professionalism in providing technical guidance to farmers post-certification also scored low, the SKKNI curriculum should be supplemented with extension-and-communication-skills modules, senior-extension-officer field mentoring immediately after certification,

and periodic technical clinics with farmer groups to help newly certified officers consolidate their professional confidence.

This study is limited to a single institution (BPP Lampung), a single cohort of 60 respondents, and three of Kirkpatrick's four evaluation levels, observed over a relatively short post-certification window; these boundaries constrain the generalizability of the findings and may understate longer-term behavioral transfer. Future research is encouraged to extend the evaluation to Kirkpatrick Level 4 (Results/Impact) to capture the program's institutional contribution to food-security targets, and to adopt a longer behavioral observation window, since work-behavior change typically requires an adaptation period beyond a single training cycle to become statistically detectable. More broadly, the findings offer an empirical reference for other government training institutions currently transitioning, or planning to transition, from conventional training schemes to competency-certification-based schemes.

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