



Contents lists available at Journal Global Econedu

Journal of Educational and Learning Studies

ISSN: 2655-2760 (Print) ISSN: 2655-2779 (Electronic)

Journal homepage: <http://jurnal.globaleconedu.org/index.php/jels>



The effect of feedback assessment and learning motivation on students' performance

Desrita Yanti, Friyatmi Friyatmi^{*)}

Universitas Negeri Padang, Padang, Indonesia

Article Info

Article history:

Received Apr 23th, 2026
Revised May 22nd, 2026
Accepted Jun 30th, 2026

Keyword:

Feedback assessment,
Learning motivation,
Path analysis,
Student performance

ABSTRACT

This study examined the direct effect of feedback assessment on student performance and its indirect effect through learning motivation among vocational high school students. A quantitative causal research design was employed involving 299 students selected through proportional simple random sampling from two public vocational high schools in Kecamatan IV Jurai, Indonesia. Data on feedback assessment and learning motivation were collected using validated Likert-scale questionnaires, while student performance was measured using mid-semester examination scores. Data were analyzed using descriptive statistics and path analysis. Feedback assessment significantly influenced learning motivation ($\beta = 0.686$, $p < 0.001$), whereas its direct effect on student performance was not significant ($\beta = 0.002$, $p = 0.976$). Learning motivation significantly predicted student performance ($\beta = 0.197$, $p = 0.013$) and mediated the relationship between feedback assessment and student performance. Learning motivation is a key mechanism through which feedback assessment contributes to improved academic performance in vocational education.



© 2026 The Authors. Published by Global Econedu.

This is an open access article under the CC BY-NC-SA license
(<https://creativecommons.org/licenses/by-nc-sa/4.0>)

Corresponding Author:

Friyatmi Friyatmi,
Universitas Negeri Padang,
Email: fri.yatmi@fe.unp.ac.id

Introduction

Student performance is widely recognized as a key indicator of educational quality because it reflects students' mastery of knowledge, skills, and competencies required for future careers (Liu et al., 2025; Zhan, 2024). In vocational education, academic performance is particularly important because competency-based learning requires students to integrate theoretical understanding with practical skills that meet labor market demands. Nevertheless, many vocational students continue to experience difficulties in achieving optimal academic outcomes despite the implementation of competency-based curricula. This condition indicates that student performance is influenced not only by cognitive ability but also by instructional practices that facilitate meaningful learning. Among these practices, feedback assessment has emerged as a crucial component of formative assessment because it provides students with information that guides learning improvement and competency development (Kinnear et al., 2023; Potdevin et al., 2018; Pujals & Lasagabaster, 2019).

Feedback assessment is increasingly recognized as more than an evaluative tool; it is an instructional process that enables students to monitor their progress, recognize learning gaps, and regulate subsequent learning activities. Feedback theory suggests that timely, specific, and actionable feedback promotes reflection, self-monitoring, and continuous improvement, whereas formative assessment emphasizes feedback as a mechanism

for supporting learning rather than merely measuring achievement (Maleki, 2025; Pujals & Lasagabaster, 2019; Winstone & Boud, 2022). However, evidence also indicates that feedback does not automatically improve academic performance because its effectiveness depends on how students interpret and utilize the information provided during the learning process (Fong & Schallert, 2023; Mandouit & Hattie, 2023).

Learning motivation represents one of the most important psychological factors explaining why feedback may influence academic achievement. Motivational perspectives and social cognitive theory argue that environmental factors, including teacher feedback, enhance learning outcomes by strengthening students' self-efficacy, engagement, persistence, and self-regulated learning. Empirical studies consistently report that motivated students achieve higher academic performance and that instructional feedback contributes to learning primarily by increasing students' motivation to participate actively in learning activities (Ismail et al., 2022; Kusurkar et al., 2023; L. Xu et al., 2024). Nevertheless, previous findings remain inconsistent, as some studies report direct effects of feedback on academic performance, whereas others suggest that its influence occurs indirectly through motivational processes (Fan et al., 2025; Fidan & Gencel, 2022).

Although research concerning feedback assessment and learning motivation has expanded considerably, important conceptual and contextual gaps remain. Previous studies have predominantly examined the direct relationship between feedback and academic achievement or investigated learning motivation as an independent predictor, while limited attention has been given to its mediating role in explaining how feedback influences student performance. Moreover, empirical evidence from vocational high schools remains relatively scarce, particularly within the Indonesian context, despite the distinctive characteristics of competency-based vocational education that require effective instructional feedback to support students' academic development (Fong & Schallert, 2023; Sunra & Samtidar, 2023; Williams, 2024). Accordingly, this study offers a conceptual contribution by proposing learning motivation as the mechanism through which feedback assessment influences student performance, rather than merely examining direct relationships among the variables.

Based on these considerations, this study aims to examine the direct effect of feedback assessment on student performance, the influence of feedback assessment on learning motivation, the effect of learning motivation on student performance, and the mediating role of learning motivation in the relationship between feedback assessment and student performance among vocational high school students. By integrating these variables into a single causal model using path analysis, this study provides a more comprehensive explanation of the motivational processes underlying the effectiveness of feedback assessment. The findings are expected to enrich the literature on formative assessment and motivational learning while providing evidence-based recommendations for improving instructional feedback practices in vocational education (Al-Darei & Elhag, 2022; Fidan & Gencel, 2022; Hooda et al., 2022; Kusurkar et al., 2023; Mandouit & Hattie, 2023).

Method

This study employed a quantitative research design using a causal associative approach to investigate the direct and indirect relationships among feedback assessment, learning motivation, and student performance. The research was conducted during the second semester of the 2025/2026 academic year at two public vocational high schools, namely SMKN 1 Painan and SMKN 2 Painan, located in Kecamatan IV Jurai, Pesisir Selatan Regency, Indonesia. The study population comprised 1,181 students. A sample of 299 respondents was determined using the Slovin formula with a 5% margin of error. The sample was proportionally allocated to each school and subsequently selected through simple random sampling to ensure equal participation opportunities. In the proposed causal model, feedback assessment was specified as the independent variable, learning motivation as the mediating variable, and student performance as the dependent variable.

Student performance was measured using students' mid-semester examination scores as an indicator of academic achievement. Feedback assessment and learning motivation were measured using structured self-report questionnaires based on a five-point Likert scale. The feedback assessment instrument consisted of 19 items covering three dimensions: frequency of different feedback types, quality of feedback, and students' perceptions and preferences toward feedback. Meanwhile, the learning motivation instrument comprised 24 items representing eight dimensions: learning interest, learning persistence, mastery orientation, learning challenges, cognitive engagement and learning strategies, self-efficacy and achievement motivation, value orientation, and elaboration. Prior to data collection, all questionnaire items were evaluated for validity using corrected item-total correlation and for reliability using Cronbach's alpha. The instruments demonstrated satisfactory internal consistency, with Cronbach's alpha coefficients of 0.897 for feedback assessment and 0.922 for learning motivation.

Data analysis was conducted using SPSS version 22. Descriptive statistics were first employed to summarize the characteristics of the respondents and the distribution of each research variable. Before hypothesis testing,

the data were examined through classical assumption tests, including normality, multicollinearity, and heteroscedasticity, to ensure compliance with regression assumptions. The hypothesized relationships were subsequently analyzed using path analysis to estimate the direct and indirect effects among the study variables. The significance of individual path coefficients was evaluated using t-tests, whereas the overall model fit was assessed using F-tests. Statistical significance was established at a probability level of $p < 0.05$.

Results and Discussions

This study examined the relationships among feedback assessment, learning motivation, and student performance among vocational high school students in Kecamatan IV Jurai, Pesisir Selatan Regency. The findings are organized into five sections comprising respondents' characteristics, descriptive statistics of the study variables, classical assumption testing, path analysis, and the summary of direct, indirect, and total effects. This presentation provides a comprehensive overview of the empirical findings before discussing their theoretical implications.

Table 1. Respondents' Characteristics

Characteristic	Category	Frequency	Percentage (%)
School	SMKN 1 Painan	206	68.90
	SMKN 2 Painan	93	31.10
Gender	Male	128	42.81
	Female	171	57.19
Major	Accounting	37	12.37
	MPLB	69	23.08
	BR	40	13.38
	PHT	30	10.03
	TE	14	4.68
	TJKT	16	5.35
	NKN	50	16.72
	TKN	20	6.69
	APAT	7	2.34
	TKR	10	3.34
Total		299	100.00

The study involved 299 students from two public vocational high schools. Most respondents were enrolled at SMKN 1 Painan (68.90%), while 31.10% were from SMKN 2 Painan. Female students constituted the majority of the sample (57.19%), whereas male students accounted for 42.81%. The respondents represented ten vocational majors, with MPLB contributing the largest proportion (23.08%), followed by NKN (16.72%) and BR (13.38%). This distribution indicates that the sample adequately represents the diversity of students across vocational programs.

Table 2. Descriptive Statistics of Study Variables

Variable	Indicator	Mean	TCR (%)	Minimum	Maximum	SD	Category
Student Performance	Examination Score	66.86		37.00	90.00	10.872	Moderate
	Feedback Frequency of Different Feedback Types	3.47	69.49				Good
	Quality of Feedback	4.02	80.32				Good
	Perceptions and Preferences	4.01	80.23				Good
Learning Motivation	Overall	3.83	76.68				Good
	Learning Interest	3.97	79.50				Good
	Learning Persistence	3.98	79.62				Good

Variable	Indicator	Mean	TCR (%)	Minimum	Maximum	SD	Category
	Mastery Orientation	4.04	80.80				Good
	Learning Challenges	3.91	78.26				Good
	Cognitive Engagement and Learning Strategies	4.06	81.18				Good
	Self-efficacy and Achievement	4.02	80.33				Good
	Motivation Value and Achievement	3.96	79.18				Good
	Orientation Elaboration	3.91	78.23				Good
	Overall	3.98	79.64				Good

Table 2 summarizes the descriptive statistics of all study variables. Student performance achieved an average score of 66.86 (SD = 10.872), with scores ranging from 37 to 90, indicating moderate variability in academic achievement. Feedback assessment demonstrated an overall mean of 3.83 (TCR = 76.68%), suggesting that students generally perceived teachers' feedback positively. The highest-rated dimension was quality of feedback (Mean = 4.02; TCR = 80.32%), whereas the frequency of different feedback types received the lowest evaluation (Mean = 3.47; TCR = 69.49%). Similarly, learning motivation exhibited a favorable overall mean of 3.98 (TCR = 79.64%). Cognitive engagement and learning strategies obtained the highest score (Mean = 4.06; TCR = 81.18%), while elaboration recorded the lowest value (Mean = 3.91; TCR = 78.23%). Overall, both psychological constructs were classified within the good category, indicating positive student perceptions.

Table 3. Classical Assumption Test Results

Assumption Test	Indicator	Result	Decision
Normality	Kolmogorov–Smirnov Sig.	0.200	Normal distribution
Multicollinearity	Tolerance	0.529	No multicollinearity
	VIF	1.889	No multicollinearity
Heteroscedasticity	Feedback Assessment (Sig.)	0.357	Homoscedastic
	Learning Motivation (Sig.)	0.187	Homoscedastic

The regression model satisfied all classical assumption requirements. The Kolmogorov–Smirnov test produced a significance value of 0.200, confirming that the residuals were normally distributed. The tolerance value (0.529) exceeded the recommended threshold of 0.10, while the VIF value (1.889) remained well below 10, indicating the absence of multicollinearity. Furthermore, the Glejser test yielded significance values greater than 0.05 for both independent variables, confirming that heteroscedasticity was not present. These findings demonstrate that the regression model was statistically appropriate for subsequent path analysis.

Table 4. Path Analysis Results

Structural Path	β	t	p-value	Decision
Feedback Assessment to Learning Motivation	0.686	16.253	<0.001	Supported
Feedback Assessment to Student Performance	0.002	0.030	0.976	Not Supported
Learning Motivation to Student Performance	0.197	2.510	0.013	Supported

Table 4 presents the standardized path coefficients among the study variables. Feedback assessment exerted a strong positive effect on learning motivation ($\beta = 0.686$, $t = 16.253$, $p < 0.001$), indicating that higher-quality feedback substantially enhanced students' motivation to learn. Conversely, feedback assessment did not directly influence student performance ($\beta = 0.002$, $p = 0.976$), suggesting that improvements in feedback alone were insufficient to increase academic achievement. In contrast, learning motivation positively predicted student performance ($\beta = 0.197$, $t = 2.510$, $p = 0.013$), confirming its significant contribution to students' academic outcomes.

Table 5. Summary of Direct, Indirect, Total Effects and Model Fit

Parameter	Substructure 1	Substructure 2
Dependent Variable	Learning Motivation	Student Performance
R	0.686	0.198
R ²	0.471	0.039
Adjusted R ²	0.469	0.033
F-value	264.151	6.052
Significance	<0.001	0.003
Standard Error of Estimate	8.293	10.693
Direct Effect (Feedback Assessment to Student Performance)		0.002
Direct Effect (Learning Motivation to Student Performance)		0.197
Indirect Effect (Feedback Assessment to Learning Motivation to Student Performance)		0.135
Total Effect of Feedback Assessment on Student Performance		0.137

Table 5 summarizes the overall structural model. The first substructure explained 47.1% of the variance in learning motivation, indicating that feedback assessment substantially contributed to students' motivational development. In contrast, the second substructure explained only 3.9% of the variance in student performance, suggesting that academic achievement was influenced by additional variables beyond those included in the present model. Although the direct effect of feedback assessment on student performance was negligible ($\beta = 0.002$), its indirect effect through learning motivation reached 0.135, resulting in a total standardized effect of 0.137. These findings indicate that learning motivation functions as the principal mediating mechanism through which feedback assessment contributes to students' academic performance, highlighting the importance of motivational processes in translating instructional feedback into improved learning outcomes.

The present study demonstrates that feedback assessment significantly enhanced students' learning motivation ($\beta = 0.686$, $t = 16.253$, $p < 0.001$), explaining 47.1% of the variance in motivation. This substantial effect indicates that constructive feedback functions not merely as an evaluation tool but as an instructional strategy that encourages students to recognize their learning progress, identify areas requiring improvement, and engage more actively in the learning process. In vocational education, where competency mastery requires continuous practice and performance improvement, timely and specific feedback enables students to monitor their own learning development and maintain persistence toward instructional goals. These findings are consistent with feedback theory, which emphasizes that effective feedback strengthens self-monitoring, goal orientation, and learning engagement when it is timely, specific, and actionable (Patra et al., 2022; Ramzan et al., 2023; Winstone & Boud, 2022). The relatively high explanatory power obtained in this study further suggests that feedback assessment represents one of the major instructional factors influencing students' motivation in vocational learning environments.

Although feedback assessment significantly increased learning motivation, its direct effect on student performance was not significant ($\beta = 0.002$, $p = 0.976$). This finding indicates that the provision of feedback alone does not automatically translate into improved academic achievement. Instead, students must actively interpret, reflect upon, and utilize the feedback to modify their learning strategies and improve subsequent performance. The absence of a direct relationship may also reflect the characteristics of vocational education, where academic performance is determined by multiple interacting factors, including practical competence, independent learning habits, and classroom engagement. Consequently, feedback becomes meaningful only when students transform the information received into concrete learning actions. This interpretation supports previous studies emphasizing that feedback improves learning outcomes only when learners actively process and implement the information during subsequent learning activities (Kerman et al., 2024; Lui & Andrade, 2022; Mohammadi Zenouzagh et al., 2026). Therefore, teachers should focus not only on providing high-quality feedback but also on facilitating students' ability to understand and apply that feedback effectively.

The findings further reveal that learning motivation significantly predicted student performance ($\beta = 0.197$, $t = 2.510$, $p = 0.013$), confirming that motivated students achieved better academic outcomes than their less motivated peers. Students with stronger learning motivation generally exhibit greater persistence, higher cognitive engagement, stronger self-regulation, and greater willingness to invest effort in completing academic tasks. These characteristics enable students to overcome learning challenges and improve their academic achievement over time. Although the standardized coefficient indicates a moderate effect, the result confirms that motivation constitutes an essential psychological factor supporting academic success in vocational

education. This finding is consistent with motivational theories suggesting that students' internal drive plays a central role in determining learning success and supports previous empirical evidence demonstrating positive relationships between motivation and academic achievement across diverse educational contexts (Alsadoon et al., 2022; Balci et al., 2022; Huang et al., 2023; Rad et al., 2024). Accordingly, strengthening students' motivation should become a primary objective of instructional practice alongside the development of cognitive and vocational competencies.

The mediation analysis provides the most important contribution of this study by demonstrating that learning motivation serves as the principal mechanism through which feedback assessment influences student performance. Although the direct effect of feedback assessment on performance was negligible, the indirect effect through learning motivation ($\beta = 0.135$) substantially exceeded the direct effect, indicating a pattern of full mediation. These findings suggest that feedback contributes to academic achievement primarily by enhancing students' motivation rather than exerting an immediate influence on examination scores. This mechanism aligns with social cognitive theory, which proposes that environmental influences affect behavioral outcomes through cognitive and motivational processes rather than through direct causal pathways (Li, 2023; Shahzad et al., 2025; K. M. Xu et al., 2023). Consequently, the findings extend previous research by providing empirical evidence that learning motivation explains how feedback assessment is transformed into improved academic performance among vocational students, thereby offering a more comprehensive explanation than studies focusing solely on direct relationships.

Despite these important findings, the structural model explained only 3.9% of the variance in student performance ($R^2 = 0.039$), indicating that academic achievement is influenced by many additional factors beyond feedback assessment and learning motivation. Student performance in vocational education is inherently multidimensional and may also depend on self-regulated learning, academic self-efficacy, classroom environment, instructional quality, family support, and other contextual factors that were not incorporated into the present model (Alt et al., 2023; Basileo et al., 2024; Lei et al., 2022; Meyer et al., 2024). Therefore, future studies should integrate these variables to develop a more comprehensive explanatory model of student performance. Nevertheless, this study contributes to the literature by confirming the mediating role of learning motivation in the relationship between feedback assessment and student performance within vocational education. From a practical perspective, teachers should provide constructive, individualized, and dialogic feedback that encourages students to reflect on their learning progress and formulate improvement strategies, while schools should integrate instructional approaches that strengthen students' motivation to maximize the effectiveness of feedback in improving academic performance (Lampropoulos & Sidiropoulos, 2024; G. B. Lee & Chiu, 2022; Qi et al., 2023).

Conclusions

This study concludes that feedback assessment does not directly improve student performance but significantly enhances learning motivation, which in turn positively influences students' academic performance. The findings indicate that learning motivation serves as a significant mediating variable, demonstrating that the effectiveness of feedback assessment in improving student performance is primarily achieved through its ability to strengthen students' motivation to learn. These results highlight the importance of integrating high-quality feedback with strategies that foster learning motivation, thereby enabling vocational high school students to achieve better academic outcomes. The study also contributes to the literature by providing empirical evidence that motivational processes play a central role in translating instructional feedback into improved student performance within the context of vocational education.

References

- Al-Darei, I. S., & Elhag, A. (2022). The effect of feedback type in the e-learning environment on students' achievement and motivation. *Journal of Educational Technology and Online Learning*, 5(3), 694–705.
- Alsadoon, E., Alkhawajah, A., & Suhaim, A. Bin. (2022). Effects of a gamified learning environment on students' achievement, motivations, and satisfaction. *Heliyon*, 8(8).
- Alt, D., Naamati-Schneider, L., & Weishut, D. J. N. (2023). Competency-based learning and formative assessment feedback as precursors of college students' soft skills acquisition. *Studies in Higher Education*, 48(12), 1901–1917.
- Balci, S., Secaur, J. M., & Morris, B. J. (2022). Comparing the effectiveness of badges and leaderboards on academic performance and motivation of students in fully versus partially gamified online physics classes. *Education and Information Technologies*, 27(6), 8669–8704.
- Basileo, L. D., Otto, B., Lyons, M., Vannini, N., & Toth, M. D. (2024). The role of self-efficacy, motivation,

- and perceived support of students' basic psychological needs in academic achievement. *Frontiers in Education*, 9, 1385442.
- Fidan, M., & Gencel, N. (2022). Supporting the instructional videos with chatbot and peer feedback mechanisms in online learning: The effects on learning performance and intrinsic motivation. *Journal of Educational Computing Research*, 60(7), 1716–1741.
- Fong, C. J., & Schallert, D. L. (2023). "Feedback to the future": Advancing motivational and emotional perspectives in feedback research. *Educational Psychologist*, 58(3), 146–161.
- Hooda, M., Rana, C., Dahiya, O., Rizwan, A., & Hossain, M. S. (2022). Artificial intelligence for assessment and feedback to enhance student success in higher education. *Mathematical Problems in Engineering*, 2022(1), 5215722.
- Huang, C., Tu, Y., Han, Z., Jiang, F., Wu, F., & Jiang, Y. (2023). Examining the relationship between peer feedback classified by deep learning and online learning burnout. *Computers & Education*, 207, 104910.
- Ismail, S. M., Rahul, D. R., Patra, I., & Rezvani, E. (2022). Formative vs. summative assessment: impacts on academic motivation, attitude toward learning, test anxiety, and self-regulation skill. *Language Testing in Asia*, 12(1), 40.
- Kerman, N. T., Banihashem, S. K., Karami, M., Er, E., Van Ginkel, S., & Noroozi, O. (2024). Online peer feedback in higher education: A synthesis of the literature. *Education and Information Technologies*, 29(1), 763–813.
- Kinnear, B., Santen, S. A., Kelleher, M., Martini, A., Ferris, S., Edje, L., Warm, E. J., & Schumacher, D. J. (2023). How Does TIMELESS Training Impact Resident Motivation for Learning, Assessment, and Feedback? Evaluating a Competency-Based Time-Variable Training Pilot. *Academic Medicine*, 98(7), 828–835. <https://doi.org/10.1097/ACM.00000000000005147>
- Kusurkar, R. A., Orsini, C., Somra, S., Artino Jr, A. R., Daelmans, H. E. M., Schoonmade, L. J., & van der Vleuten, C. (2023). The effect of assessments on student motivation for learning and its outcomes in health professions education: A review and realist synthesis. *Academic Medicine*, 98(9), 1083–1092.
- Lampropoulos, G., & Sidiropoulos, A. (2024). Impact of gamification on students' learning outcomes and academic performance: A longitudinal study comparing online, traditional, and gamified learning. *Education Sciences*, 14(4), 367.
- Lee, G. B., & Chiu, A. M. (2022). Assessment and feedback methods in competency-based medical education. *Annals of Allergy, Asthma & Immunology*, 128(3), 256–262.
- Lei, H., Chiu, M. M., Wang, D., Wang, C., & Xie, T. (2022). Effects of game-based learning on students' achievement in science: A meta-analysis. *Journal of Educational Computing Research*, 60(6), 1373–1398.
- Li, Y. (2023). The effect of online collaborative writing instruction on enhancing writing performance, writing motivation, and writing self-efficacy of Chinese EFL learners. *Frontiers in Psychology*, 14, 1165221.
- Liu, C.-C., Hwang, G.-J., Yu, P., Tu, Y.-F., & Wang, Y. (2025). Effects of an automated corrective feedback-based peer assessment approach on students' learning achievement, motivation, and self-regulated learning conceptions in foreign language pronunciation. *Educational Technology Research and Development*, 73(4), 2403–2424. <https://doi.org/10.1007/s11423-025-10484-z>
- Lui, A. M., & Andrade, H. L. (2022). The next black box of formative assessment: A model of the internal mechanisms of feedback processing. *Frontiers in Education*, 7, 751548.
- Maleki, A. (2025). Optimizing formative assessment: the role of growth mindset feedback in EFL students' learning and motivation. *Current Psychology*, 44(23), 18363–18367. <https://doi.org/10.1007/s12144-025-08461-z>
- Mandouit, L., & Hattie, J. (2023). Revisiting "The Power of Feedback" from the perspective of the learner. *Learning and Instruction*, 84, 101718.
- Meyer, J., Jansen, T., Schiller, R., Liebenow, L. W., Steinbach, M., Horbach, A., & Fleckenstein, J. (2024). Using LLMs to bring evidence-based feedback into the classroom: AI-generated feedback increases secondary students' text revision, motivation, and positive emotions. *Computers and Education: Artificial Intelligence*, 6, 100199.
- Mohammadi Zenouzagh, Z., Admiraal, W., & Saab, N. (2026). Empowering student engagement: the dynamics of learner traits in digital feedback environments. *Journal of Computing in Higher Education*, 38(2), 678–703.
- Patra, I., Alazemi, A., Al-Jamal, D., & Gheisari, A. (2022). The effectiveness of teachers' written and verbal corrective feedback (CF) during formative assessment (FA) on male language learners' academic anxiety (AA), academic performance (AP), and attitude toward learning (ATL). *Language Testing in Asia*, 12(1), 19.
- Potdevin, F., Vors, O., Huchez, A., Lamour, M., Davids, K., & Schnitzler, C. (2018). How can video feedback be used in physical education to support novice learning in gymnastics? Effects on motor learning, self-assessment and motivation. *Physical Education and Sport Pedagogy*, 23(6), 559–574.
- Pujals, A. G., & Lasagabaster, D. (2019). The role of assessment and corrective feedback on autonomy and motivation in the learning of Spanish as an L3; [El efecto de la evaluación y la retroalimentación en la

-
- autonomía, la motivación y el aprendizaje del español como L3]. *Revista Espanola de Linguística Aplicada*, 32(2), 455–485. <https://doi.org/10.1075/resla.17050.gar>
- Qi, X., Sun, G., & Yue, L. (2023). Applying self-optimised feedback to a learning management system for facilitating personalised learning activities on massive open online courses. *Sustainability*, 15(16), 12562.
- Rad, H. S., Alipour, R., & Jafarpour, A. (2024). Using artificial intelligence to foster students' writing feedback literacy, engagement, and outcome: A case of Wordtune application. *Interactive Learning Environments*, 32(9), 5020–5040.
- Ramzan, M., Javaid, Z. K., & Ali, A. A. (2023). Perception of students about collaborative strategies employed by teachers for enhancing English vocabulary and learning motivation. *Pakistan Journal of Law, Analysis and Wisdom*, 2(02), 146–158.
- Shahzad, M. F., Xu, S., & Zahid, H. (2025). Exploring the impact of generative AI-based technologies on learning performance through self-efficacy, fairness & ethics, creativity, and trust in higher education. *Education and Information Technologies*, 30(3), 3691–3716.
- Sunra, L., & Samtidar, S. (2023). The impact of formative assessment towards students' motivation in learning English: A meta analysis. *Tamaddun*, 22(1), 28–39.
- Williams, A. (2024). Delivering Effective Student Feedback in Higher Education: An Evaluation of the Challenges and Best Practice. *International Journal of Research in Education and Science*, 10(2), 473–501.
- Winstone, N. E., & Boud, D. (2022). The need to disentangle assessment and feedback in higher education. *Studies in Higher Education*, 47(3), 656–667.
- Xu, K. M., Cunha-Harvey, A. R., King, R. B., de Koning, B. B., Paas, F., Baars, M., Zhang, J., & de Groot, R. (2023). A cross-cultural investigation on perseverance, self-regulated learning, motivation, and achievement. *Compare: A Journal of Comparative and International Education*, 53(3), 361–379.
- Xu, L., Zou, X., & Hou, Y. (2024). Effects of feedback visualisation of peer-assessment on pre-service teachers' data literacy, learning motivation, and cognitive load. *Journal of Computer Assisted Learning*, 40(4), 1447–1462. <https://doi.org/10.1111/jcal.12955>
- Zhan, Y. (2024). Feedback Literacy of Teacher Candidates: Roles of Assessment Course Learning Experience and Motivations for Becoming a Teacher. *Asia-Pacific Education Researcher*, 33(5), 1117–1127. <https://doi.org/10.1007/s40299-023-00779-1>
-