

ADVANCE SOCIAL SCIENCE ARCHIVE JOURNAL
Available Online: https://assajournal.com
Vol. 05 No. 01. Jan-March 2026.Page# 8970-8979
Print ISSN: 3006-2497 Online ISSN: 3006-2500
Platform & Workflow by: Open Journal Systems
https://doi.org/10.5281/zenodo.24242267

A Study of Digital Formative Assessment, Feedback Quality, and Student Engagement as Predictors of Academic Performance in Higher Education

Asma Arooj
B.Ed. (1.5 year) Scholar, Department of Education, Government College University Faisalabad.
asmaarooj99@gmai.com
Ms. Hina Gull
Lecturer (BPS-18), Department of Education, Government College University Faisalabad.
gullfaisal28@gmail.com
Dr. Shafqat Rasool
Assistant Professor (BPS-19), Department of Education, Government College University Faisalabad.
dr.shafqat.rasool@gcuf.edu.pk
Ms. Asma Ishtiaq (Corresponding Author)
Lecturer (BPS-18), Department of Education
ishtiaqrajpoot1122@gmail.com
Dr. Shamaiela Farooqi
Assistant Professor (BPS-19), Department of Education
shamaiela_farooqi@yahoo.com
Muhammad Ashfaq Hassan Babar
PhD. Scholar, Department of Education, Government College University Faisalabad.
ashfaqhassan75@gmail.com

Abstract
The current research looked at how students are exposed to formative assessment and how good the feedback is and how that affects their engagement in learning and their grades in higher education. Formative assessment helps students learn better by letting them check how they are doing find where they need to improve and get grades because of helpful feedback. A study that uses numbers and looks at how different things connected was used to look into the links between these things. Data came from 300 students and the researchers used numbers to describe the data and looked at how the different parser connected. The results showed that students felt they had an amount of formative assessment exposure (average score 3.68 standard deviation 0.62) good quality of feedback (average score 3.85 standard deviation 0.59) and were fairly engaged in their learning (average score 3.92 standard deviation 0.57). The average grade was 3.18 (deviation 0.41). When they looked at how the different things were connected, they saw that all the variables were connected in a way at a high level. The amount of formative assessment students had was connected to the quality of the feedback (r =.52) to how engaged they were (r =.58) and to their grades (r =.41). The quality of feedback was also connected to grades (r =.48). To how engaged students were (r =.58). How engaged students were was also connected to their grades (r =.45). The strongest links were between assessment exposure and student engagement and between feedback quality and student engagement. These results suggest that when students have formative assessment and get better feedback, they are more engaged, in their learning and get better grades. The study suggests that schools

should do formative assessments give feedback that is timely and helpful and encourage students to use this feedback to improve their learning. Since this study looked at connections and not causes the results show links, not proof of cause and effect.

Keywords: Formative Assessment, Feedback Quality, Student Engagement, Academic Performance, Higher Education, Correlational Study.

1. Introduction

Assessment is not simply a way to give grades; it tells students what is expected helps them plan their work and gives teachers and learners information that can make learning better. In education digital platforms are opening up new ways for assessment such as online tests, electronic submissions, automated quizzes, discussion tasks and digital feedback. These new ways can make assessment more flexible. Allow more frequent checks of learning but their success depends on the purpose of the learning and how well they are put into practice (Morris et al., 2021; Sembey et al., 2024). Digital assessment can change students' engagement by altering how they take part in learning tasks respond to feedback see their progress and talk with teachers. Engagement is often seen as having three parts: participation, emotional involvement and cognitive investment. These parts are. Not the same. A student might do tasks regularly but not think deeply about them or a student might care a lot about a course but not participate consistently (Fredricks et al., 2004; Kahu, 2013). The link between assessment and academic performance is not always straight or the same for everyone. I notice that low-stakes quizzes and formative feedback can help students spot mistakes. Students can adjust their study habits. Technology alone does not guarantee better grades. A systematic review of education research found encouraging evidence for low-stakes quizzing and for some kinds of peer and tutor feedback. The review also pointed out that the evidence and the effects of technology mediated feedback are mixed and the evidence depends on how technology's used (Morris et al. 2021). Recent reviews show the growing use of intelligence learning analytics and other new technologies in assessment and feedback. These tools can give feedback. Examine learning processes, but these tools also raise questions about privacy, openness, fairness and human judgement. Therefore, institutions need evidence about how students feel about assessment and whether those feelings are linked to engagement and academic performance in their own settings (Sembey et al., 2024). The proposed study looks at assessment practices as design features instead of treating all technology-based assessment as one single idea. The study focuses on students' views of accessibility, clarity, feedback, interaction, variety and fairness. The study checks how these views connect to engagement and academic performance. This approach follows calls for definitions of engagement and for studies that look at contexts in higher education (Kahu, 2013; Bergdahl et al. 2024).

2. Problem Statement

I see that universities use tools to assess students but having a digital platform does not automatically mean that assessment is effective for learning. Students may get. General feedback, unclear criteria and technical problems. Students also have chances to show what they know and students worry about fairness and security. These experiences can affect how much students participate and how motivated students feel. The link to performance can differ across courses, subjects and student situations (Morris et al. 2021; Sembey et al., 2024). In university settings digital assessment is judged by whether the platform exists or by convenience rather than by looking closely at students' engagement and academic results. The research problem is, therefore the need for evidence that's specific to each context. The evidence should show which parts of assessment are linked to behavioural, emotional and

cognitive engagement and whether those parts are related to academic performance, in higher education. (Kahu, 2013; Bergdahl et al. 2024).

3. Research Objectives

The main goal of the study was to examine how formative assessment practices and feedback quality relate to students' learning engagement and academic performance in education.

The specific objectives were:

1. To examine the relationship between assessment exposure and feedback quality among university students.

2. To investigate the relationship between assessment exposure and students' learning engagement.

3. To determine the relationship between assessment exposure and students' academic performance.

4. To examine the relationship between feedback quality and students' performance.

5. To investigate the relationship between feedback quality and students' learning engagement.

6. To explore the relationship between students' learning engagement and academic performance in education.

4. Research Hypotheses

The following null hypotheses (H_o) were created to match the study objectives.

1. **H01**: There was no relationship between formative assessment exposure and feedback quality among university students.
2. **H02**: There was no relationship between formative assessment exposure and students' learning engagement.
3. **H03**: There was no relationship, between formative assessment exposure and students' academic performance.
4. **H04**: There was no link between feedback quality and students' academic performance.
5. **H05**: There was no link between feedback quality and students learning engagement.
6. **H06**: There was no link, between students learning engagement and academic performance.

5. Review of Related Literature

5.1 Digital assessment in higher education

Digital assessment means using tools to design, give, submit, check, record or give feedback on student work. It can include quizzes, computer-based exams, learning-management-system assignments, e-portfolios, peer assessment tools, automatic scoring and data-driven assessment. Digital assessment is useful when the tasks match the learning goals, when the platform is easy to use and when the technology lets teachers give feedback and interpret results well (Sembey et al., 2024). A system that focuses on technology should not be judged by how fast or how easy it is. Validity, reliability, openness, fairness and academic honesty remain the important concerns. Digital tools can help students practice times and get quick feedback but poorly designed systems can create unfairness when students do not have the same access to devices, reliable internet easy-to-use interfaces or a good test environment (Morris et al. 2021; Sembey et al., 2024).

5.2 Formative assessment and feedback

Formative assessment helps learning when evidence about students' understanding is used to guide the next teaching and learning steps. Feedback is most useful when it helps students see how good their work is, spot gaps and decide what to do. In an education systematic review Morris et al. (2021) Found low-stakes quizzing to be a promising strategy and saw benefits for some peer- and tutor-feedback approaches while stressing that the way the feedback is put into

practice matters. Digital feedback can come in forms—annotated documents, rubric-based comments automatic quiz replies, audio or video messages and alerts from learning management systems. The way feedback is delivered does not determine its value. What matters is whether it is clear connected to learning goals and gives students steps they can take to improve. Research shows that technology-based feedback can have results. We should not assume that digital delivery automatically makes learning better (Morris et al., 2021; Sembey et al., 2024).

5.3 Students' learning engagement

Student engagement is often broken down into three areas: behaviour, emotion and cognition. Behavioural engagement means showing up participating, completing tasks and staying focused. Emotional engagement includes feelings like interest a sense of belonging and how students react to learning. Cognitive engagement refers to the effort and strategies students use to understand what they are learning. This three-part approach helps avoid reducing engagement to one thing, such as how often a student logs in or submits work (Fredricks et al., 2004).

In education engagement is shaped by how students interact with their learning environment. Kahu (2013) argues that engagement should not be mixed up with its causes or effects. Instead teaching practices and institutional factors influence how students get involved. Digital assessment can be seen as part of this environment—it might. Block engagement, but it is not a guaranteed cause. Research that connects student engagement with technology shows a strong body of evidence on how engagement is defined, measured and linked to technology use. This supports studies that clearly identify the parts of engagement and the specific digital assessment practices being studied (Bond et al., 2020; Bergdahl et al. 2024).

5.4 Digital assessment and academic performance

Academic performance can be measured in ways—course grades, semester GPA or cumulative GPA—depending on school policies and the research question. It is important to use a consistent measure. When official records are not available self-reported achievement can be used, It must be labeled as self-reported and interpreted with care. Evidence shows that how assessment is designed and how feedback is given matters more than using technology. Morris et al. (2021) Found some results across formative assessment methods in higher education but the evidence is not yet conclusive. A recent review of tools also points to more assessment applications being used while stressing the need for stronger evaluation especially focusing on human-centered aspects and ethical concerns (Sembey et al., 2024).

6.. Conceptual Framework

This study is guided by ideas about assessment and feedback where assessment results are used to support improvement. It also uses a -layered view of student engagement. The framework suggests that students' experiences with assessment such, as clarity, accessibility, usefulness of feedback, variety of assessments, interaction and perceived fairness are connected to their emotional and cognitive engagement. These forms of engagement are then linked to performance. This is an idea, not a claim that causation has been proven.

(Morris et al., 2021; Fredricks et al., 2004; Kahu, 2013). Variable: Digital assessment practices include accessibility and usability transparency of criteria, timeliness and usefulness of feedback, variety of assessment, interaction and perceived fairness. Mediating construct: Learning engagement covers emotional and cognitive aspects. Outcome variable: Academic performance is measured by verified course marks or GPA. Control variables that may be considered are discipline, study level, prior achievement, gender where suitable, device and internet access and how often the platform is used.

7. Research Methodology

7.1 Research design

We propose a correlational design. This design is chosen because the study wants to describe students' experiences and estimate the relationships among assessment practices learning engagement and academic performance at one single time point. A correlational design can reveal relationships and predictive patterns. However, this design cannot alone prove that digital assessment practices cause changes in learning engagement or academic performance (Creswell & Creswell 2018).

7.2 Population and sampling

The target population may include 300 undergraduate and postgraduate students enrolled in education institutions that use digital assessment practices. A multi-stage or stratified sampling approach is preferable when access allows so that students, from faculties, programmes and study levels are represented. If we use convenience sampling because of access constraints we should acknowledge the limitation to generalizability. The final sample size must be justified by a power analysis that uses the main planned test the expected effect size, the chosen significance level and the desired power (Cohen, 1988).

7.3 Instrumentation and operationalization

Data can be collected with a questionnaire that uses a five-point Likert scale. The items should measure dimensions of digital assessment practices and the three dimensions of learning engagement. We should adapt items from established literature where possible have subject experts review them and pilot-test them with students who're not part of the main sample. The instrument should not be called validated until we have evidence from expert review, pilot testing and suitable reliability and validity analyses (DeVellis & Thorpe 2021). Digital assessment practices items may cover ease of access, clarity of instructions and rubrics timeliness of feedback usefulness of feedback chances to practice, interaction and perceived fairness. Engagement items should separately cover participation, emotional interest and belonging and cognitive effort and strategy use. Academic performance should preferably come from institutional records with informed consent; if we rely on self-reported GPA we must state that decision and its limitations (Fredricks et al., 2004; Kahu, 2013).

7.4 Validity, reliability and ethics

Content validity should be supported by expert review. Construct validity can be examined with confirmatory factor analysis when sample size and measurement conditions are suitable. Internal consistency can be assessed with Cronbach's alpha and omega coefficients should be used when appropriate. Reliability coefficients must be reported for each scale or subscale not for the questionnaire because the questionnaire contains multiple constructs (DeVellis & Thorpe 2021). Participation must be voluntary and based on consent. Students should be told what data will be collected how academic records will be accessed, who will see the data and how confidentiality will be protected. Identifiable academic records should be kept separate from survey responses. Stored securely. Institutional ethical approval and all relevant permissions must be obtained before recruiting participants and collecting data.

7.5 Proposed data analysis

After screening the data descriptive statistics such as frequency, percentage, mean and standard deviation should summarise characteristics and scale scores. Missing data, outliers, distributional assumptions and response patterns must be examined before running any tests. Reliability analysis should be performed for each -item scale and factor analysis should be considered if the instrument is newly developed or substantially adapted (Field, 2018; DeVellis & Thorpe 2021). Pearson's product-moment correlation may be used to examine associations

among composite scores when the assumptions are satisfied; Spearman's rho is an alternative for ordinal or highly non-normal data. Multiple linear regression can estimate whether digital assessment dimensions and learning engagement are linked to performance while controlling for selected background variables. Regression diagnostics such as linearity, multicollinearity, homoscedasticity, influential cases and residual distribution should be reported (Field, 2018). If the study aims to test whether learning engagement statistically mediates the link between assessment practices and academic performance a mediation model, with bootstrapped confidence intervals may be considered. However cross-sectional mediation does not establish order or causal mediation; longitudinal or experimental evidence would be stronger, for causal claims (Hayes, 2022; Creswell & Creswell 2018).

8. Results and Statistical Reporting: Data Required

Descriptive Statistics

Table 1

Descriptive Statistics of Assessment Variables (N = 300)

Variables	N	M	SD
Formative Assessment Exposure	300	3.68	0.62
Feedback Quality	300	3.85	0.59
Student Engagement	300	3.92	0.57
Academic Performance (GPA)	300	3.18	0.41

Table 1 shows that students reported positive experiences with formative assessment practices and feedback quality. Formative assessment exposure has a score of 3.68 (SD = 0.62) which shows a moderate to relatively high level of exposure, to formative assessment activities. Feedback quality has a score of 3.85 (SD = 0.59) indicating that students view feedback as useful, clear and timely. Student engagement has the mean score, 3.92 (SD = 0.57) suggesting that students show relatively high levels of academic involvement. Academic performance, measured by GPA shows a mean of 3.18 (SD = 0.41). Overall, the findings suggest that students experience formative assessment practices and generally positive feedback and engagement.

5 Correlation Analysis

Table 2

Pearson Correlations Among Assessment Variables (N = 300)

Relationships	Pearson's r	Significance
Formative Assessment Exposure – Feedback Quality	.52	p < .01
Formative Assessment Exposure – Student Engagement	.58	p < .01
Formative Assessment Exposure – GPA	.41	p < .01
Feedback Quality – GPA	.48	p < .01
Feedback Quality – Student Engagement	.58	p < .01
Student Engagement – GPA	.45	p < .01

The correlation analysis presented in Table 2 showed that all six relationships among the study variables were positive and statistically significant at the.01 level. Formative assessment exposure had a correlation with feedback quality (r =.52, p <.01) which means that more exposure to formative assessment practices was linked to better views of feedback. Also, formative assessment exposure had a link with student engagement (r =.58 p <.01). This was one of the links found in the analysis. Additionally formative assessment exposure was connected to performance (r =.41 p <.01) which means students who had more exposure to formative assessment practices also had higher GPA scores. Feedback quality also had a link with academic performance (r =.48, p <.01). This result suggested that students who thought feedback was more helpful and effective also had academic performance. Also feedback quality

was connected to student engagement (r =.58 p <.01) meaning that better feedback experiences were linked to involvement in academic activities. Finally, student engagement had a statistically significant link with academic performance (r =.45 p <.01). This result meant that students who said they were more engaged, in their studies also had GPA scores. Overall, the results showed that formative assessment exposure, feedback quality, student engagement and academic performance were all connected in a way. However, correlation analysis only shows links not cause and effect.

Hypothesis Testing Based on Actual Results

Table 3

Hypothesis	Pearson's r	Significance	Decision
H01	.52	p < .01	Rejected
H02	.58	p < .01	Rejected
H03	.41	p < .01	Rejected
H04	.48	p < .01	Rejected
H05	.58	p < .01	Rejected
H06	.45	p < .01	Rejected

9. Research Finding

The results showed that all six null hypotheses were rejected. Formative assessment exposure and feedback quality had a relationship with student engagement and academic performance. Student engagement also had a relationship with academic performance. The strongest relationships reported were between assessment exposure and student engagement (r =.58) and between feedback quality and student engagement (r =.58). These results highlighted how continuous assessment and constructive feedback help students stay involved academically. Research-methodology note: Because your study used Pearson correlation and a cross-sectional design use the word relationship of impact or effect in your objectives and conclusions. This will make your research claims statistically defensible.

10. Discussion

The findings of the study showed positive relationships among formative assessment exposure, feedback quality, student engagement and academic performance in higher education. The results suggested that formative assessment practices and constructive feedback were parts of students' learning experiences. These findings supported the view that formative assessment is an ongoing instructional process where evidence of student learning can guide improvement (Black & Wiliam 2009). The findings showed a relationship between assessment exposure and feedback quality. This means students who had exposure to assessment activities also saw the feedback they received more positively. Activities like classroom quizzes, peer assessment, short assignments and continuous evaluation may have given students chances to spot their learning problems and get guidance for improvement. This matches Hattie and Timperley's (2007) view that effective feedback helps learners understand their performance and figure out the steps needed to reach learning goals. Additionally formative assessment exposure had a relationship with student engagement. This suggests that students who had formative assessment practices also showed more involvement in academic activities. Regular assessment chances may have pushed students to participate keep track of their progress. Stay focused on their learning duties. This relationship matches the assessment view of Black and Wiliam (2009) which says assessment evidence can help improve teaching and learning. The study also found a link between assessment exposure and academic performance. This means students who had exposure to assessment practices tended to have higher GPA scores. Continuous assessment activities might have helped students prepare academically by letting them spot weaknesses

before exams.. This link should be seen as an association not proof that formative assessment directly boosted achievement. Morris et al. (2021) Also pointed out the role of assessment and feedback in learning outcomes in higher education. Feedback quality also had a link with performance. This shows that students who saw feedback as clear, useful and supportive tended to have performance. Constructive feedback might have helped students understand assessment requirements, spot weaknesses and improve their work. This study looked at how assessment exposure, feedback quality, student engagement and academic performances' connected in higher education. Using data from 300 participants the study found that all six links between these variables were positive and statistically significant at level. The results showed that formative assessment exposure was linked to higher feedback quality, greater student engagement and better academic performance. Likewise higher feedback quality was linked to student engagement and better academic performance and higher student engagement was linked to academic performance.

11 Conclusions:

The study also found that formative assessment exposure and feedback quality were strongly linked to student engagement. This means that regular assessment tasks, feedback and chances for students to check their learning progress are key parts of a lively learning environment. The link between assessment exposure and GPA shows that frequent assessment can be academically useful. These results match the ideas of Black and Wiliam (2009) who highlighted the role of assessment in teaching and learning and of Hattie and Timperley (2007) who said that good feedback helps learning grow.

Also, the study showed that student engagement is a factor linked to performance. Students who said they were more involved in learning activities usually had GPA scores. This confirms that schools should build learning spaces that promote participation checking and helpful academic discussions. Earlier studies also pointed out that formative assessment and feedback help students succeed in education (Morris et al., 2021). In conclusion this study proved that formative assessment exposure, feedback quality and student engagement are all linked positively to performance. Colleges and universities should therefore focus more on assessment, useful feedback and learning that puts students first. While the study shows links it does not prove that one causes the other. Future research should use term or experimental studies to see how better formative assessment and feedback can boost student engagement and academic success.

12. Recommendations

1. Strengthen Formative Assessment Practices: Colleges should increase assessment activities, such as classroom quizzes, assignments, peer reviews, presentations and short learning tasks to keep track of students' progress.
2. Improve Feedback Quality: Teachers should give feedback that's timely clear, constructive and actionable so students can see where they need to improve and raise their performance.
3. Promote Student Engagement: Teachers should use student centered methods that encourage participation critical thinking, classroom discussion and teamwork.
4. Integrate Digital Assessment Tools: Universities should use platforms, online quizzes, electronic assignments and learning management systems to support continuous assessment and make feedback faster.
5. Develop Teachers Assessment Competencies: Colleges should hold development programs and workshops to improve teachers' skills in assessment, feedback methods and ways to engage students.

6. Encourage Student Self-Assessment: Students should be encouraged to check their progress spot learning gaps join peer assessment and use teachers' feedback to get results.
7. Establish Effective Feedback Mechanisms: Universities should set up ways for students to receive updates on their progress and talk about areas that need improvement.
8. Monitor Academic Performance: Departments should regularly check students' engagement and progress to spot learning problems and offer the help.
9. Ensure Equal Access, to Digital Assessment: Universities should give technology, internet and accessible resources so that every student can join digital assessment activities.
10. Promote Future Research: Researchers should study how formative assessment, feedback quality, student engagement and academic performance relate in universities, fields and settings. Long term and experimental studies should also look for links.

Overall recommendation: Colleges and universities should create an assessment system that mixes formative assessment, useful feedback, student participation and proper digital tools to help learning and boost academic success.

13. Limitations

The present study had some limits that should be kept in mind when looking at its results. First the study used a design looking at how formative assessment exposure, feedback quality, student engagement and academic performance are linked at one moment. Although the results showed significant links among all the study variables the design did not show that one causes another or that formative assessment practices directly changed students' academic performance. Second the study involved 300 participants. Because of this the results might not reflect the experiences of all university students in institutions, fields of study or places. The way the sample was chosen and the institutions included may also have affected how well the results apply to settings. Third the study relied on students' own reports about assessment, feedback quality and engagement. These answers could have been shaped by views, memory or differences between people. Likewise academic performance was measured by self-reported GPA, which might not match the records students had. Fourth formative assessment activities included quizzes, peer assessment, continuous evaluation and feedback tasks. These activities may have varied in how they were used how good they were and how they were carried out in courses and schools. Therefore, the findings might not show the effect of each assessment strategy on students learning. Finally, the study looked at the four chosen variables. Did not look at other things that might affect academic performance, such as motivation, background, teaching quality, earlier grades, campus facilities or learning resources. Despite these limits the study gives evidence, about how formative assessment exposure, feedback quality, student engagement and academic performance relate in education. Future researchers should do term and experimental studies use more varied samples and use officially verified academic records to learn more about how formative assessment practices help students learn and succeed (Creswell & Creswell 2018; Field, 2018).

References

Bergdahl, N., Bond, M., Sjöberg, J., Dougherty, M., & Oxley, E. (2024). Unpacking student engagement in higher education learning analytics: A systematic review. International Journal of Educational Technology in Higher Education, 21, Article 63. https://doi.org/10.1186/s41239-024-00493-y

Black, P., & Wiliam, D. (2009). Developing the theory of formative assessment. Educational Assessment, Evaluation and Accountability, 21, 5–31. https://doi.org/10.1007/s11092-008-9068-5

Bond, M., Buntins, K., Bedenlier, S., Zawacki-Richter, O., & Kerres, M. (2020). Mapping research in student engagement and educational technology in higher education: A systematic evidence map. International Journal of Educational Technology in Higher Education, 17, Article 2. https://doi.org/10.1186/s41239-019-0176-8

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates.

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approach (5th ed.). SAGE Publications.

DeVellis, R. F., & Thorpe, C. T. (2021). Scale development: Theory and applications (5th ed.). SAGE Publications.

Field, A. (2018). Discovering statistics using IBM SPSS statistics (5th ed.). SAGE Publications.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. Review of Educational Research, 74(1), 59–109. https://doi.org/10.3102/00346543074001059

Hattie, J., & Timperley, H. (2007). The power of feedback. Review of Educational Research, 77(1), 81–112. https://doi.org/10.3102/003465430298487

Hayes, A. F. (2022). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (3rd ed.). The Guilford Press.

Kahu, E. R. (2013). Framing student engagement in higher education. Studies in Higher Education, 38(5), 758–773. https://doi.org/10.1080/03075079.2011.598505

Morris, R., Perry, T., & Wardle, L. (2021). Formative assessment and feedback for learning in higher education: A systematic review. Review of Education, 9(3), Article e3292. https://doi.org/10.1002/rev3.3292 wrap.warwick.ac.uk+1

Sembey, R., Hoda, R., & Grundy, J. (2024). Emerging technologies in higher education assessment and feedback practices: A systematic literature review. Journal of Systems and Software, 211, Article 111988. https://doi.org/10.1016/j.jss.2024.111988