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The power of assessment feedback in teaching and learning: a narrative review and synthesis of the literature

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Abstract

Assessment feedback is heralded as an integral facilitator of teaching and learning. Despite the acknowledgement of its crucial role in education, there are inconsistencies in its powerful impact in teaching and learning: the role of the categories of feedback, the role of providers of feedback, constituents of effective feedback, and barriers to effective feedback. The focus of the narrative synthesis is to examine these different dimensions of assessment feedback and its powerful role in teaching and learning. A narrative evidence involving 82 studies was presented in thematic themes identified in literature. From the comprehensive review of the literature, the concept of assessment feedback and how it contributes to school effectiveness is thoroughly discussed. The article presents assessment feedback as a valuable factor for educators and students seeking to ensure continuous school improvement. It was found that a blended form of formative and summative feedback can improve teaching and learning. Feedback in any form should be specific, timely, frequent, supportive, and constructive. Negative feedback can distort learning, affective states of the recipient of feedback, and the job performance of employees. Findings from the review can assist researchers, authors, and readers of feedback reviews in the conceptualization of the role of assessment feedback in education. The study concludes with pedagogical implications for teaching and learning practice.

Keywords Assessment · Feedback · Formative assessment · Summative assessment · Evaluation

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Introduction

Feedback refers to a piece of information given by a teacher, parent, self, peer, book, or experience and sought for by teachers, students, peers, and so on as a result of performance (Hattie and Timperley 2007). Wiggins (2011) also defines it as a piece of information an individual receives in an effort to accomplish a goal. Colbran et al. (2016, p. 6) describes feedback as the "cornerstone of all learning." Feedback is not always viewed as a single unit but also seen in the context of assessment (Goh and Walker 2018). Assessment and feedback can hardly be separated (Hattie and Timperley 2007; Huang 2015). The core aim of feedback is to minimize errors, reduce gaps, enhance one's knowledge, and acquisition of skills (Tan et al. 2020). Feedback has been identified as one of the best ways to significantly impact learning outcomes (Al-Hattami 2019; Hattie and Timperley 2007; Mahfoodh 2017; Moreno 2004; Panhoon and Wongwanich 2014; Shute 2008; Van der Kleij et al. 2019). Feedback in any form (written, oral, grades, or scores) has the power to influence learning (Brown et al. 2012). A vital component to teaching and learning is feedback because it serves as an indicator as to whether learning has taken place or not. (Bergil and Atlib 2012). Educational achievement and learning can be improved by the right feedback given at the right frequency (Panhoon and Wongwanich 2014). Feedback is an essential and powerful element for designing teaching (Cohen 1985) and a better way to improve performance (Wiggins 2011). However, feedback on its own is unable to automatically yield positive results unless actors involved are motivated (Schweinberger et al. 2017). Feedback can be effective or not effective, but likely to be effective when commitment towards an intended goal is high (Hattie and Timperley 2007). Effective feedback depends on factors such as motivation (Panhoon and Wongwanich 2014; Shute 2008). Feedback is an important tool when it comes to motivating learning (Lepper and Chabay 1985; Narciss and Huth 2004). Negative feedback has the ability to distort learning and performance (Fedor et al. 2001). Narciss and Huth (2004) in their study outlined a conceptual framework for feedback and found out that informative feedback has an effect on motivation (intrinsic and extrinsic) and achievement. Atwater and Brett (2006) also found out that feedback that led to improved leadership behavior ultimately resulted in improved employee attitudes, such as satisfaction, level of engagement, and intent to leave an organization. Bergil and Atlib (2012) in their study found out that both teachers and students expressed the importance of giving and collecting feedback. According to the authors, feedback assists both teachers and students to get new insights, ability, and develop competence instead of repeating errors. Only a few studies have concluded that feedback has little or no effect on performance such as the meta-analysis by Kluger and DeNisi (1996) which showed that about one-third of the studies indicated feedback is not always beneficial. For the purpose of this paper, feedback is conceptualized in the context of assessment. The narrative synthesis will focus on the powerful role assessment feedback plays in teaching and learning. The paper contributes to the extant literature on assessment feedback by highlighting the integral role it plays in improving teaching and learning in the

education field. The article is intended for educators (school administrators/leaders and teachers) and students whose goal is to facilitate teaching and learning for school effectiveness. The principal question leading this investigation is given as follows:

What is the powerful role of assessment feedback in teaching and learning?

The question seeks to identify how feedback facilitates teaching and learning in the school context by motivating teachers to improve their teaching practices and for students to increase their academic performance. Four subsidiary questions evolve from this question:

a. What are the types of assessment feedback and their powerful role in teaching and learning?
b. Who are the providers of assessment feedback and their powerful role in teaching and learning?
c. What constitutes effective assessment feedback in teaching and learning?
d. What are the barriers to effective assessment feedback in teaching and learning?

Method

Literature search

The literature search for the study was conducted not only in the field of education but also relevant literature in other fields such as psychology, business, medicine, sports, and linguistics with much focus on higher education context. Watling et al. (2013) mentioned that different professions and cultures have an influence on feedback. The author chose articles from different fields to investigate how assessment feedback influence teaching and learning in different contexts. The search spanned from the period of April 2020 to September 2020. The online databases used for the collection of the relevant articles were Taylor and Francis, Springer, SAGE, ERIC, SCOPUS, JSTOR, PsycINFO, Emerald Reach, and PubMed. To search for specific references for some articles, Google Scholar was also used. Keywords employed in the search were "feedback", "formative assessment", "summative assessment', "formative feedback", "summative feedback", "evaluation", and "feedback barriers". A snowballing technique (White 1994) was used for further literature search based on the obtained literature to scan their reference lists for relevant publications using Peters et al. (2015) recommendation for scoping reviews. During data screening and extraction, 103 articles were rejected because the focus shifted more to assessment instead of assessment feedback. Out of the full-text articles assessed for eligibility ($n = 121$), some articles ($n = 39$) were excluded using the inclusion criteria. Despite extensive literature search, a limitation of the study is that not all relevant literature may have been retrived by the researcher. Nonetheless, saturation was achieved. Thus, addition of further literature would not have significantly altered the results.

Inclusion and Exclusion Criteria

For inclusion and exclusion criteria, the literature search included books and full-text journal articles (articles of topical importance that utilized narrative, systematic and meta-analytic review, and empirical studies), but case reports, conference proceedings, dissertations, unpublished studies, and abstracts papers were excluded from this review. Seminal articles in the feedback literature were collected. Aside from seminal articles, the search was not limited to a specific date range. Yet most of the articles collected and reviewed were those published from the last decade (2010–2020). The author chose this time span for most of the included studies in order to capture latest articles on the development of the feedback literature. Articles published before 2010 were also reviewed to include a large number of seminal articles on assessment feedback. Majority of the literature were from published journal articles as opposed to books. Also, the full-text articles used had to be accessible in English and peer-reviewed to be included in the study. The quality of the included studies was judged based on standard quality assessment criteria (Kmet et al. 2004). The criteria assess the "internal validity" of both quantitative and qualitative studies included in this review. Examples of excluded studies were those that did not focus on feedback based on human interactions only, but other forms such as in a computer-based learning contexts (computer-based feedback) and also studies that provided little information on the feedback process (Table 1).

Table 1 Inclusion and exclusion criteria for the review

Item	Criteria
Central Topic	The central theme of studies included had to be on assessment feedback. Studies that contain assessment feedback as a peripheral were excluded. Also, articles that focused more on "evaluations" in education were excluded
Participants	The study captures all stakeholders in education, specifically; school administrators, teachers, students, and peers. This allowed for the researcher to conceptualize the role of each stakeholder in education
Research Design	Both empirical and theoretical research studies were included to deduct how the subject matter (feedback) is defined using the two approaches. There were no restriction on studies in terms of education level or the field of education to assess the role of feedback in diverse levels of education and discipline area
Language of Article	The article had to be in English for it to be included
Publication Year	No limited date range was set for the inclusion criteria to include seminal articles of topical importance. Majority of the articles included were from the last decade (2010–2020) because recent literature on feedback was published during this period
Publication status	All included papers needed to be peer-reviewed
Form of Feedback	Included studies were those that focused on feedback based on human interactions only

Data extraction

Duplicate articles were removed, and the remaining articles were assessed for inclusion or exclusion using the already mentioned set criteria. The author read the abstract or full article during the data extraction stage to remove duplicate articles and articles that did not meet the inclusion criteria. The articles were assessed based on their design, sample size and sampling technique, setting, characteristics of participants, ethics, and outcome measurements. Articles with small sample size and were not conducted in an educational setting were excluded from the study. Also, studies that did not have assessment feedback as its central topic, but employed the concept only peripherally were excluded from the review. After utilizing the search strategy identified above, 224 studies were screened. Overall, 82 articles met the inclusion criteria (see Fig. 1). The publications that met the inclusion criteria were 63 empirical studies, 16 literature reviews, and 3 were also synthesis of literature compiled as books. Majority of the studies utilized purely quantitative designs ($n=22$), followed by the literature reviews ($n=20$), qualitative ($n=18$), mixed-methods ($n=13$), and experimental design ($n=9$). The data were extracted from
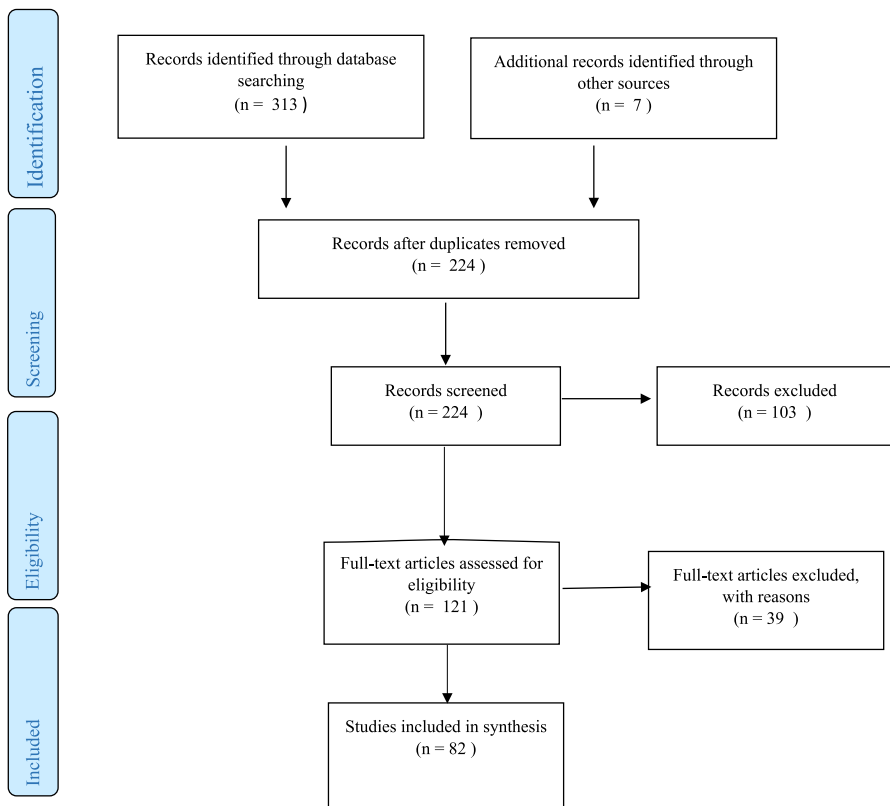

Fig. 1 PRISMA flow chart outlining the literature search and selection

the included studies and recorded on an excel spreadsheet according to author(s) and year, setting, mode of feedback, characteristics of participants, results, methods, publication type, country, and educational context. The synthesis table (see Table 2) gives specific information on the methods of data collection, the school context, country, and the kind of respondents used in the selected studies.

Literature analysis

The 82 reviewed articles were thematically analyzed using the narrative synthesis approach. This method "adopts a textual approach to the process of synthesis to 'tell the story' of the findings from the included studies" (Popay et al. 2006). The approach comprises of four main elements to combine the findings of multiple studies: the development of a theoretical model that underpins the analysis (this step involves checking the range of adequacy of articles included in the study), a preliminary description of patterns in the included studies, exploring intersection and overlaps in the studies, and finally assessing the synthesis product in relation to the theoretical background. The theoretical model underpinning the analytic procedure comprised of the conceptualization of assessment feedback and its valuable role in teaching and learning. A right conceptualizing of assessment feedback will inform its decisive role in teaching practice and the learning outcomes of students. Based on this theoretical framework, the selected articles were analyzed for definition of feedback, modes of feedback, providers of feedback, constituents of effective feedback, and the barriers to an effective feedback. The author explored the key findings in the preliminary synthesis and presented the relationship between the data in the results/discussion section. Using an inductive approach, the product of the synthesis was assessed with reference to the quality of selected studies. All selected studies represented high-quality research. The different modes, providers, effectiveness, and barriers to effective feedback formed up the thematic themes for analysis.

Results/discussion

Types of assessment feedback in teaching and learning

There are different modes of feedback: planned, unplanned, formal, informal, ad hoc, spoken, or written (May 2013). Generally, there are two types of feedback: formative feedback and summative feedback. Both formative and summative assessment feedback are beneficial to learning and directly affect student engagement (Colbran et al. 2016). Formative assessment feedback primarily focuses on feedback such as outlining strengths and weaknesses, while grades and marks are associated with summative assessment feedback (Colbran et al. 2016; Cooper 2000). Formative assessment feedback is often qualitative and non-graded contrary to the summative assessment which oversees students' educational outcomes and grade performance at a specific point in time (McCarthy 2017). Mubayrik (2020) simply defines formative assessment feedback as an assessment *for learning,* whereas summative ones

Table 2 Overview of selected studies

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[1]	Al-Hattami (2019)	Teacher college	Quantitative	Students and faculty members	Constructive feedback	Questionnaires	Constructive feedback is a crucial tool for teaching and learning	Bahrain	Journal	Tertiary
[2]	Aoun et al. (2016)	University	Quantitative	Students	Summative, peer and generic feedback	Questionnaires	Summative and generic feedback influences learner's experience	Australia	Journal	Tertiary
[3]	Bader et al. (2019)	Teacher education institution	Qualitative	Students	Formative feedback	Interviews, documents	Teacher feedback is significant. Positive attitude towards peer feedback yields positive results	Norway	Journal	Tertiary
[4]	Banister (2020)	University	Mixed-methods	Students	Peer feedback	Questionnaires, classroom discussion, observation and reflection	Students were positively predisposed to peer feedback but moderately enthusiastic about the usage	United Kingdom	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[5]	Beran and Rokosh (2009)	University	Quantitative	Instructors	Student feedback	Questionnaires	Student feedback is useful for administrators to make summative decisions but marginally valuable in enhancing teaching.	Canada	Journal	Tertiary
[6]	Bergil and Atlib (2012)	University	Quantitative	Students and instructors	Generic feedback	Questionnaires	Feedback is a vital component of teaching and learning	Turkey	Journal	Tertiary
[7]	Black and William (1998)	University/college	Mixed-method synthesis of literature	Academicians (teachers and students)	Formative feedback	Document analysis	Effectiveness of formative feedback in classroom work depends on several features of its quality	United Kingdom	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[8]	Boud and Falchikov (1989)	University	Quantitative synthesis	Students and teachers	Self-feedback	Document analysis	Self-assessors are salient, but able students tend to make more accurate assessment	N/A	Journal	Tertiary
[9]	Brown et al. (2012)	Primary and secondary schools	Quantitative	Teachers	Generic feedback	Questionnaires	Feedback is important for improving student's learning	New Zealand	Journal	Pre-tertiary
[10]	Carless and Boud (2018)	Primary, Secondary, and university	Literature review	Teachers and students	Student/Peer feedback	Document analysis	Development of feedback literacy help students to judge and improve their own works	N/A	Journal	Tertiary/Pre-tertiary
[11]	Chan et al. (2010)	Secondary school	Experimental	Students	Formative and summative feedback	Questionnaires, test scores	Summative feedback results in large decrease in self-efficacy than formative feedback	China	Journal	Pre-tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[12]	Cohen (1985)	Primary. Secondary, and university	Literature review	Academicians	Generic feedback	Document analysis	Feedback has an effect on instructional designs	N/A	Journal	Tertiary/Pre-tertiary
[13]	Colbran et al. (2016)	University	Mixed-methods	Students	Formative feedback	Interviews, questionnaires	Instructional design has an effect on feedback mechanisms	Australia	Journal	Tertiary
[14]	Cooper (2000)	University	Qualitative	Students	Formative feedback	Document analysis, discussions	Learning can be facilitated by using feedback than only completing assignment	United Kingdom	Journal	Tertiary
[15]	Crisp (2007)	University	Quantitative	Students	Generic feedback	Document analysis	Feedback alone may not be sufficient. Educator's feedback practices have an effect on the quality of a student's work	Australia	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[16]	Deely (2013)	University	Qualitative	Students	Summative feedback	Interviews	Summative co-assessment aid students to be aware of their skills but should be used cautiously	Scotland	Journal	Tertiary
[17]	Donaldson and Papay (2015)	Primary (K-8 and high school)	Qualitative	Educators	Generic feedback	Interviews	Feedback improves instructional practice	USA	Journal	Pre-tertiary
[18]	Ellegaard et al. (2017)	University	Qualitative	Students and teachers	Formative feedback	Document analysis	Ways of formulating feedback signify learning than others	Denmark	Journal	Tertiary
[19]	Evans (2013)	University	Quantitative Literature review	Students	Generic feedback	Document analysis	Assessment feedback can improve learning but not for all students and in every context	N/A	Journal	Tertiary
[20]	Fedor et. al (2001)	University	Quantitative	Staffs and administrators	Generic feedback	Questionnaires	Negative feedback can affect employee performance	USA	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[21]	Flodén (2016)	University	Quantitative	Teachers	Student feedback	Questionnaires	Student feedback affects teaching and helps to improve courses	Sweden	Journal	Tertiary
[22]	Fluckiger et al. (2010)	University	Quasi-experimental	Students	Formative feedback	Classroom tests, questionnaires	A key strategy to enhance teaching and learning is formative feedback involving students	USA	Journal	Tertiary
[23]	Frank et al. (2017)	University	Quantitative	Students	Formative feedback	Questionnaires, document analysis	Feedback and scaffolding can improve student performance	Canada	Journal	Tertiary
[24]	Gaertner (2014)	Primary and secondary school	Quantitative	Teachers	Student feedback	Questionnaires	Student feedback result in changes in teaching	Germany	Journal	Pre-tertiary
[25]	Gibbs and Simpson (2005)	University	Literature review	Academicians	Generic feedback	Document analysis	Teaching can be improved by changing aspects of assessment	United Kingdom	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[26]	Gibbs and Taylor (2016)	University	Experimental	Students	Self and instructor's feedback	Classroom tests, questionnaires	Feedback promotes learning. No significant difference exist between students who receive instructor's feedback and those who self-assessed their work	USA	Journal	Tertiary
[27]	Goh and Walker (2018)	Primary	Qualitative action research	Students	Teacher feedback	Questionnaire, document analysis	The level of student's emotional maturity can affect their reception of feedback. They need to be taught and supported on how to interpret feedback	Australia	Journal	Pre-tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[28]	Halverson (2010)	Primary and secondary school	Qualitative	School teachers and leaders	Formative feedback	Interviews, observations, document analysis	Quality school formative feedback systems can improve teaching and learning	USA	Journal	Pre-tertiary
[29]	Hamilton (2009)	University	Experimental	Students	Formative and summative feedback	Classroom tests, document analysis	Immediate formative and summative feedback is indispensable in higher education and its delivery can be automated by applications (such as excel) for efficiency	Australia	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feed-back	Methods	Results	Country	Publication type	Education context
[30]	Harlen and James (1997)	Primary and secondary school	Literature review	Academicians	Formative and summative feedback	Document analysis	There is a difference in the requirements of assessment for formative and summative reasons, yet, can be linked	United Kingdom, Europe	Journal	Pre-tertiary
[31]	Harris et al. (2015)	Primary and secondary school	Quantitative	Students and teachers	Self and peer feedback	Questionnaire, document analysis	Peer and self-assessment feedback that are task oriented are learning rather than well-being which is seen in self-feedback	New Zealand	Journal	Pre-tertiary
[32]	Harrison et al (2015)	University	Qualitative	Students	Summative assessment	Interviews	Barriers to feedback should be identified before providing feedback after assessment	United Kingdom	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[33]	Hattie (2008)	Primary, secondary, university	Literature review	Academicians	Generic feedback	Document analysis	Feedback is effective when commitment towards and intended goal is high	New Zealand	Book	Tertiary/Pre-tertiary
[34]	Hattie and Timperley (2007)	Primary, secondary, university	Literature review	Academicians	Generic feedback	Document analysis	Feedback has a powerful influence in learning and achievement but the type and way it is given can be differentially effective	N/A	Journal	Tertiary/Pre-tertiary
[35]	Hellrung and Hartig (2013)	Primary, secondary, university	Literature review	Academicians	Generic feedback	Document analysis	Teachers encounter problems understanding feedback and focus on their use of it to create strategic teaching tactics	N/A	Journal	Tertiary/Pre-tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[36]	Hoban and Hastings (2006)	Secondary school	Mixed-methods	Academicians	Student feedback	Interviews, observations, questionnaire, document analysis	Student interviews was found among the four methods of collecting feedback as the most meaning for teacher reflection	N/A	Journal	Pre-tertiary
[37]	Hoo et al. (2020)	University	Quasi-experimental	Students	Self and peer feedback	Classroom test, document analysis	It is important for students to be reflective of self and peer feedback via written and codified journal to enhance learning	Singapore	Journal	Tertiary
[38]	Huang (2015)	University	Quasi-experimental	Students	Self-feedback	Classroom test, document analysis	Teachers should dedicate time to facilitate leaner's self-feedback and self-assessment	Taiwan	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[39]	Karlsen (2017)	University	Qualitative	Students	Teacher feedback	Interviews	Teacher feedback is useful for students. But there exist a type of feedback that is more useful for students	Norway	Journal	Tertiary
[40]	Koka and Hein (2006)	Primary school	Quantitative	Students	Teacher feedback	Questionnaire	Student who perceive themselves to be competent use teacher feedback positively	Estonia	Journal	Pre-tertiary
[41]	Kyaruzi et al. (2019)	Secondary school	Mixed-methods	Students	Formative feedback	Questionnaire, discussions	The quality of delivery of teacher feedback and promotion of student feedback can improve performance	Tanzania	Journal	Pre-tertiary
[42]	Lepper and Chabay (1985)	Primary, secondary, university	Literature review	Academicians	Generic feedback	Document analysis	Feedback is significant tool for motivating learning	N/A	Journal	Tertiary/Pre-tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[43]	Lipnevich and Smith (2009)	University	Experimental	Students	Generic feedback	Questionnaire, document analysis	Descriptive feedback when given alone is more efficient than evaluative feedback	N/A	Journal	Tertiary
[44]	Liu et al. (2019)	University	Quantitative	Administrators and teachers	Generic feedback	Questionnaire	Teacher's cherish feedback that is specific, evident based, frequent and tied to their professional development	USA	Journal	Tertiary
[45]	Lutovac et al. (2017)	University	Qualitative	Teachers	Student feedback	Interviews	Teachers need to negotiate ways to cope with student feedback since it is essential for their teaching	Finland	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[46]	Mahfoodh (2017)	University	Qualitative	Students	Teacher feedback	Interviews, document analysis	Emotional response from students can affect their understanding and usage of teacher written feedback	Yemen	Journal	Tertiary
[47]	May (2013)	Primary, secondary, university	Literature review	Learners	Formative feedback	Document analysis	Feedback is used differently by assessors	United Kingdom	Journal	Tertiary/Pre-tertiary
[48]	McCarthy (2017)	University	Mixed-methods	Students	Formative feedback	Discussions, questionnaire	Students have varying attitudes towards different feedback models. They consider feedback as positive and a tool that helps them to reflect on assessment task	Hong Kong, China, Vietnam, Malaysia, Canada	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[49]	McKevitt (2013)	University	Mixed-methods	Teachers and students	Self and teacher feedback	Discussion, document analysis	Feedback has a significant impact on performance. Tutors should give constructive feedback to students during assignments	Ireland	Journal	Tertiary
[50]	Merry and Orsmond (2008)	University	Mixed-methods	Students	Formative feedback	Interview, document analysis	Students perceive feedback provided via audio files as quality and easy to understand	United Kingdom	Journal	Tertiary
[51]	Mireles-Rios and Becchio (2018)	High school	Qualitative	Teachers	Administrator feedback	Interviews	Feedback from administrators has an influence on the confidence of teachers	USA	Journal	Pre-tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[52]	Montgomery and Baker (2007)	University	Quantitative	Teachers and students	Teacher feedback	Questionnaire	Students understand feedback that suit their preference. Teachers should provide feedback on local as well as global issues	USA	Journal	Tertiary
[53]	Moreno (2004)	College	Experimental	Students	Explanatory and Corrective feedback	Classroom tests, questionnaire	Explanatory feedback as opposed to corrective feedback help novice students to construct knowledge from discovery-based climate by decreasing cognitive workload	Mexico	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[54]	Mubayrik (2020)	University	Literature review	Academicians	Formative and summative feedback	Document analysis	Assessment is different from evaluation. Adult learners tend to be more self-regulated with assessment feedback than young students and suited for formative evaluations	N/A	Journal	Tertiary
[55]	Narciss and Huth (2004)	Primary, secondary, university	Literature review	Academicians	Informative feedback	Document analysis	Informative feedback has a positive effect on achievement and motivation	N/A	Book section	Pre-tertiary/ Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[56]	Nicol et al. (2014)	University	Mixed-methods	Students	Peer feedback	Interviews, questionnaires	Feedback reviews reduces the need of external feedback and help students to be assessors of others and their own work	United Kingdom	Journal	Tertiary
[57]	Pagano and Paucar-Caceres (2013)	University	Mixed-methods	Students	Formative feedback	Questionnaire, observation, recording	High-quality feedback is frequent, timely, and with a locus	United Kingdom	Journal	Tertiary
[58]	Panhoon and Wongwanich (2014)	Primary schools	Mixed-methods	Students	Teacher feedback	Interviews, test scores, document analysis	Feedback given at the right frequency can improve educational achievement and learning	Thailand	Journal	Pre-tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[59]	Percell (2017)	High school	Literature review	Academicians	Teacher feedback	Document analysis	Teachers should utilize feedback as an important tool to encourage students to learn	N/A	Journal	Pre-tertiary
[60]	Perera et al. (2008)	University	Mixed-methods	Teachers, students	Formative feedback	Discussions, questionnaire	Formative feedback is important for helping poor performers	Malaysia	Journal	Tertiary
[61]	Perera et al. (2014)	University	Quantitative	Students	Formative feedback	Questionnaire	There is a relationship between formative feedback and academic performance via summative tutorial-based assessment	Australia	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[62]	Popham (2008)	Primary, secondary, university	Literature review	Academicians	Formative feedback	Document analysis	Formative assessment feedback is a powerful instructing method to facilitate student engagement and understanding	N/A	Book	Tertiary/Pre-tertiary
[63]	Qunayeer (2019)	University	Qualitative	Students	Peer feedback	Interviews, video recordings	Peer feedback is a vehicle or interaction but it is faced with the issue of reliability	Malaysia	Journal	Tertiary
[64]	Rand (2017)	University	Literature review	Academicians	Summative feedback	Document analysis	Written summative feedback is the result of students mis-understanding of feedback	N/A	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[65]	Robins (2019)	University	Qualitative	Faculty clerks	Formative feedback	Interviews	Faculty reception of feedback depends on who is giving the feedback, feedback content, how it is framed, and why is given	USA	Journal	Tertiary
[66]	Ryan et al. (1980)	University	Quantitative	Faculty members	Generic feedback	Questionnaire	Students' evaluation of instruction decreased teacher morale and job satisfaction. Also, there were changes in instructional practices	USA	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[67]	Sadler (1989)	Primary, secondary, university	Literature review	Academicians	Formative feedback	Document analysis	For students to improve, they must be able to self-assess their work and teacher evaluation can develop these skills in students	N/A	Journal	Tertiary/Pre-tertiary
[68]	Schweinberger et al. (2017)	Primary and secondary schools	Quantitative	Teachers	Generic feedback	Questionnaire	Feedback has a strong impact on knowledge acquisition	Switzerland	Journal	Pre-tertiary
[69]	Shute (2007)	Primary and secondary, university	Literature review	Academicians	Formative feedback	Document analysis	Formative feedback should be multidimensional, timely, supportive and individual characteristics makes it effective	N/A	Research report	Tertiary/Pre-tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[70]	Shute (2008)	Primary and secondary, university	Literature review	Academicians	Formative feedback	Document analysis	Formative feedback should be non-evaluative, timely, supportive, and specific	N/A	Journal	Tertiary/Pre-tertiary
[71]	Skovholt (2018)	Secondary school	Qualitative	Teachers, students	Teacher and student feedback	Video recording	Teachers should be conscious of the role of feedback. They should pose; fewer questions & advice, present negative feedback directly	Norway	Journal	Pre-tertiary
[72]	Tan et al. (2020)	University	Qualitative	Teachers	Teacher feedback	Interviews	Feedback reduces errors and aids knowledge and skill acquisition. Attentive listening aids students' uptake of feedback	Australia	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[73]	Taras (2008)	University	Quantitative	Lecturers	Summative and formative feedback	Questionnaire	Formative and summative assessment feedback have an impact teacher practice and students	N/A	Journal	Tertiary
[74]	Tasker and Herrenkohl (2016)	Primary school	Qualitative	Teachers	Peer feedback	Videotape recording	Access to feedback aids students in learning in specific and general inquiry problem	USA	Journal	Pre-tertiary
[75]	Van den Hurk et al. (2016)	University	Experimental	Teachers	Generic feedback	Video recording, observation	Effective teacher behavior is accelerated via the use of data-feedback	Netherlands	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[76]	Van der Kleij et al. (2019)	Primary and secondary, university	Meta-review	Students	Generic feedback	Document analysis	Students are active agent in the feedback process. The relationship between their learning and feedback is mediated by factors	N/A	Journal	Tertiary/Pre-tertiary
[77]	Watling et al. (2013)	University	Qualitative	Students	Generic feedback	Interviews, discussion	Feedback is essential in learning but it is influenced by social and cultural factors	Canada	Journal	Tertiary
[78]	Weaver (2006)	University	Mixed-methods	Students	Teacher feedback	Questionnaire, discussions	Students need advice on understanding and using feedback before they can engage in it	United Kingdom	Journal	Tertiary

Table 2 (continued)

No.	Author(s) and publication year	Setting	Design	Respondent(s)	Mode of Feedback	Methods	Results	Country	Publication type	Education context
[79]	Wiggins (2011)	Primary and secondary schools	Quantitative	Students	Student feedback	Questionnaire	Getting feedback from students regularly can help teachers improve their teaching practice	USA	Journal	Pre-tertiary
[80]	Yorke (2003)	University	Literature review	Academicians	Formative feedback	Document analysis	Formative assessment feedback can be constructive or a hindrance towards learning	N/A	Journal	Tertiary
[81]	Zhong (2019)	Secondary school	Quantitative	Students	Teacher feedback	Classroom test, document analysis	Both direct and indirect feedback from teachers have an influence on student learning	China	Journal	Pre-tertiary

are an assessment *of learning*. Formative and summative feedback are two types of feedback which have been identified as a predictor of learning outcomes and motivation (Shute 2008).

Formative feedback

One way to enhance and facilitate learning across levels in the education system is through formative assessment (Ellegaard et al. 2017). Formative feedback is designed to ensure a school is able to access formative information regarding the learning process to provide a guideline for teachers and students (Halverson 2010). The goal of formative feedback is to modify the thinking and behavior of the learner to improve learning (Frank et al. 2017). Formative assessment feedback is employed to support learning, aid students to bridge the gap between desired learning objectives and actual level of performance, and it helps students to appreciate the value of high-quality work (Bader et al. 2019; Colbran et al. 2016; Sadler 1989). Shute (2007, p. 1) states that "formative feedback represents information communicated to the learner that is intended to modify the learner's thinking or behavior for the purpose of improving learning". Students who receive formative feedback go through a continuous process of self-assessment based on standard criteria, and this helps to enhance learning (Fluckiger et al. 2010). Formative assessment has the propensity to transform a comparison-dominated classroom where much attention is focused on grades and marks to a learning-dominated classroom where the focus is on improving the quality of teaching and learning (Popham 2008). Shute (2008) found that formative feedback can act as a form of scaffolding for complex tasks, facilitates learning, and also leads to an improvement in performance. Cooper (2000) concluded in his study that formative feedback provides a useful learning experience for students by shifting their attention from what they do to pass an assignment to how they think about their work. Black and Wiliam (1998) identified three levels of formative feedback: teacher level (where teachers need information on specific processes and students' learning outcomes to shape their teaching), student level (where a student engages in self-assessment to guide the learning process), and teacher-student interaction level (exchange of dialogs between teacher and students to highlight frugal gaps in the learning process that must be addressed) (Fig. 2).

Summative feedback

Summative assessment feedback is given at the end of a learning program and is used to grade a learner to inform a decision on the progress of learning or certification (Perera et al. 2014). Summative assessment feedback is used to judge the overall quality of a program, educator's accountability, and also as evidence of achievement (Mubayrik 2020). The focus of summative feedback is on the outcome without necessarily empowering learners with the means to attain their goal; instead, it makes students associate their ability with their performance evaluation (Chan and Lam 2010). Harlen and James (1997, p. 370) describes it as a type of feedback that is employed for "for the purposes of reporting to parents, other teachers, the pupils themselves and, in summary, form, to other interested parties such as school

governors or school boards." According to Mubayrik (2020), summative feedback has to do more about evaluation since it is performed at the end of a learning cycle or program to make a judgment about its quality. As a result, educators perceive summative assessment feedback as significant in the entire educational process but not in everyday teaching as opposed to formative assessment feedback (Aoun et al. 2016). The authors added that despite its little effect on daily teaching and learning, most students focus on the marks or grades they receive at the end of a learning process than comments in a duration of course or program. Although myriads of studies (Black and Wiliam 1998; Gibbs and Simpson 2005) have perceived summative assessment feedback in a negative light, Taras (2008) argues that the misuse of this kind of assessment has distorted the view of it. Summative assessment feedback has the impetus to imbue in learners intrinsic motivation to learn, which can result in empowerment and deep learning (Deeley 2013).

Providers of feedback assessment in teaching and learning

Administrators' assessment feedback

Feedback from administrators can enhance the continuous development of teachers by increasing teacher self-efficacy, making the classroom safe and challenging, and increasing the level of engagement of students (Mireles-Rios et al. 2019). Administrators' feedback if constructive and effective is able to improve the instructional strategies of teachers (Mireles-Rios and Becchio 2018; Donaldson and Papay 2015). Feedback teachers receive from external evaluations and how they use it can foster student achievement (Hellrung and Hartig 2013). It behooves on school leaders to give teachers effective feedback for their professional growth and instructional improvement (Liu et al. 2019).

Teachers' assessment feedback

Teacher self-assessment feedback has been proven to affect their affective states, such as developing a positive outlook for their work and their capabilities in teaching practices (Montgomery and Baker 2007). Feedback can result in a high success rate of students (Yorke 2003) and increase or decrease a students' effort towards learning (Shute 2008). In an experimental study involving 464 college students, students who received descriptive feedback performed better than their counterparts who received grade or praise (Lipnevich and Smith 2009). Teacher feedback has a great impact on the learning of students (Percell 2017; Skovholt 2018). Teachers provide feedback to students with the hope that they will respond to it and make an effort to improve their learning (Goh and Walker 2018). The type of feedback teachers give to their students have a significant effect on their intrinsic motivation which ultimately has an impact on their performance outcomes (Koka and Hein 2006). The authors emphasized that a positive "general feedback" helps to create a more conducive learning environment for students. In another study, students emphasized
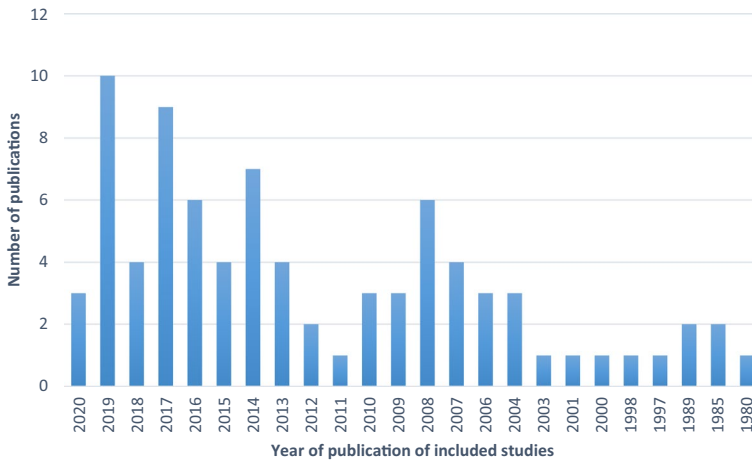
Fig. 2 Overview of publication years of included studies

that they find teacher feedback more useful (Karlsen 2017). Both direct and indirect feedback from teachers was found to improve students' learning outcomes (Zhong et al. 2019). Al-Hattami (2019) who conducted research on students in Bahrain Teachers College (BTC) identified the lack of constructive feedback as one of the reasons why the academic achievement of students are dwindling.

Students' assessment feedback

According to Flodén (2016), there is a dearth of research studies that agree that student feedback results in an improvement in teaching and learning, although its impact is small. Student feedback on teaching practice is widely acknowledged, especially in the higher education context and is used for promotion and tenure (Lutovac et al. 2017). For teachers to make informed instructional decisions to improve the learning of students, it is necessary for students to provide feedback on the effectiveness of teaching (Hamilton 2009). Students' feedback to teachers helps them to reflect on the teaching profession and think differently to tackle problematic situations in the classroom (Hoban and Hastings 2006). Teachers get additional motivation to improve teaching when they receive feedback from their students (Gaertner 2014). Feedback helps teachers to evaluate their teaching and identify areas that need improvement (Al-Hattami 2019; Montgomery and Baker 2007) and foster effective teaching behavior (Van den Hurk et al. 2016). However, how teachers respond to student feedback is relative; some focus on the negative feedback which leads to low job morale (Ryan et al. 1980), while some focus on the positive which leads to higher performance (Beran and Rokosh 2009).

Peers' assessment feedback

In peer feedback, McCarthy (2017) expressed that students who are perceived as "equal status learners" critique and provide comments on each others' submissions and can be viewed as a form of collaborative learning or formative assessment (students are regarded as assessors and assessees). According to the author, peer feedback is beneficial for student learning in that the feedback is derived from a range of different sources, offers constructive reflection, gives attention to detail, offers critical analysis and thoughts, and ultimately improves the quality of work. Positive attitudes towards peer feedback have learning gains (Alt and Raichel 2020). Peer feedback can complement teacher's feedback by relieving teacher's workload and improve learning (Nicol et al. 2014). Advocates of peer assessment feedback opine that it is motivational; it aids in the development of metacognition by encouraging learners to participate in their own learning to identify the teaching and assessment methods that work best for them (Evans 2013). The researcher adds that it helps students to develop their interpersonal skills and enhance communication and also to monitor their overall progress and that of others. Thus, peer assessment feed is a significant approach to engaging learners in their own self-assessments and learning. Learners work together (team building/collaboration) in peer feedback and give comments on each others' work with the goal of improving learning (Banister 2020). Peer feedback develops in students the skill of evaluation about the quality of their peers' work and also that of their own (Nicol et al. 2014). Through peer feedback, learners are able to attain higher levels of cognitive development, and it also provides them with opportunities for mutual scaffolding (Qunayeer 2019). Students are motivated to take greater responsibility (Tasker and Herrenkohl 2016) and develop new perspectives on their own ideas when they analyze and build on the ideas of their peers.

Self-feedback

Research has proven that even in the absence of any feedback, students generate internal feedback (Perera et al. 2008). Self-assessment feedback is derived from a personal evaluation of own performance and progress and is a vital graduate attribute and employment ability (Hoo et al. 2020). Personal feedback encourages students to know where they individually went wrong and also provides room for self-improvement (Gibbs and Taylor 2016). The authors add that self-feedback help student to have immediate feedback instead of waiting for teachers to give personalized comments. McKevitt (2013) calls for students to be assessors of their own work because the feedback they derive from self-assessment can aid them to improve their own work and make a quality judgment. Learners who play an active role in the feedback process enhance their performances and acquire skills for self-regulation (Kyaruzi et al. 2019). Lower achieving students are weak with self-evaluation, and hence, provide poor self-feedback (Carless and Boud 2018). Sadler (1989) advocates for a learning environment created by teachers that moves students from being only recipients of feedback but also self-assessors who are able to generate their

own feedback. Instructor's input has the propensity to aid students to derive quality feedback from self-assessment (Huang 2015). For accurate self-feedback that is aligned with the goals of a given task, instructors have to train students (Harris et al. 2015). Self-feedback accuracy also increases with age and educational experience (Boud and Falchikov 1989).

Effective assessment feedback in teaching and learning

Effective feedback has been documented in research as a facilitator of learning (Aoun et al. 2016). It is imperative for both teachers and students to know what constitutes effective feedback, its impact on teaching and learning, its functions, and also their respective roles in the feedback processes (Bader et al. 2019). Colbran et al. (2016) mentioned that effective feedback provides clarification what is termed as a good performance, it fosters independent studies, and is able to motivate and encourage students to know the gap between knowledge and understanding. The same authors added that feedback is effective when it is prompt, encouraging, rational, and constructive. High-quality feedback is frequent, timely, and with a locus (Pagano and Paucar-Caceres 2013). Effective feedback has to be specific in nature, simple, descriptive, and its focus must be on the task for students to set concrete expectations for themselves and take steps geared towards their own success (Fluckiger et al. 2010). Although feedback is about enhancing performance, it is considered as more effective when it is associated with progress (May 2013) and should relate to performance in terms of goals, criteria, and expected outcomes (McCarthy 2017). Aoun et al. (2016) add that effective feedback results in some kind of reflective knowledge buildings (i.e., to monitor and evaluate in an attempt to elicit and provide support for advanced knowledge building). McCarthy mentions six key drivers of effective feedback for students to achieve better performances; feedback should be sufficient in frequency and detail, should be targeted at students' performance and learning should be "timely" such that it is relevant in time for application, should be suited for the aim of assessment and its criteria, should be appropriate to students' conception of learning and knowledge, and should be attended to and acted upon. Bader et al. (2019) opined that feedback has to be used for it to be considered as effective. According to the authors, one of the key ingredients to effective feedback is students' engagement in feedback practices. A learner has to be receptive to feedback for it to be successful, the learner must understand the comment given in a way that it matches with his/her frame of reference (Harrison et al. 2015), and finally, the learner has to set realistic and attaining goals and put in efforts to achieve them. Merry and Orsmond (2008) also states that language is critical for feedback to be effective. They revealed that the language of feedback can make a learner achieve greater performance than they would in the absence of peers or tutors. Fluckiger et al. (2010) believe that formative assessment feedback is more effective than only feedback given at the end of a learning cycle. According to Hattie (2008), there are four levels of feedback, but only the first three are effective: task-level feedback (how tasks are well understood), process-level feedback (this involves the process needed to comprehend and accomplish tasks), self-regulation-level feedback (this has to do with

self-monitoring, self-directing, and self-regulating actions), and finally self-level feedback (how a learner personally evaluate self).

Barriers to effective assessment feedback in teaching and learning

It is often assumed that the failure of instructors to provide adequate feedback results in the poor performance of students (Crisp 2007). Ineffective feedback can be a barrier that distorts the learning process (Rand 2017). McCarthy (2017) stated that feedback can be provided in a way in which it is ineffective for students and staff. Students may perceive such feedback as very late, inconsistent and unclear, or vague. International students are learners who often misunderstand feedback due to illegible handwriting in the case of written feedback and language differences in spoken/oral feedback. With regard to staff, feedback can be increasingly repetitive and time consuming, especially when feedback is given in large classes where giving "timely" feedback is a difficult task to achieve. In terms of peer feedback, lack of understanding of explicit criteria on assessment can be a barrier to quality feedback. Learners will also make little use of feedback if the feedback is only a confirmation of what they know (Hattie and Timperley 2007) Feedback that lacks credibility (when the person giving feedback has not observed the learner) will also be disregarded (Watling et al. 2013). Robins et al. (2019) in their study found that participants are receptive to feedback more or less depending on how the feedback was framed (positive or negative), the tone of the feedback, why the feedback was given, the content of the feedback, and who the feedback was coming from. In a study conducted on Business and Design students by Weaver (2006), he found out that feedback to students was often too late (summative in nature) to aid the students. And also, the content of the feedback did not have the efficacy to motivate or guide students or the students did not have a full comprehension of academic discourse to be able to interpret the comments given. Recently, social and cultural influences have been identified as having an impact on an individuals' receptivity and responsiveness to feedback (Harrison et al. 2015). The authors cited that are most receptive to feedback when it alters their own self-assessment of their abilities. Also, feedback when critical can induce an emotional response which can serve as a barrier to its effective use. They added that feedback becomes ineffective when leaders use it as a means to boost their self-confidence rather than using it for correction of knowledge or skill deficiencies.

Conceptual research model

The conceptual model (Fig. 3) is a modified version of Bohndick et al. (2020) research model on the effects of feedback. From the theoretical findings, feedback is conceptualized as coming from many sources (teachers, students, peers, self, administrators) and is provided in several modes (generally formative and summative through direct, indirect, immediate, corrective, explanatory, planned, unplanned, written, oral, ad hoc, etc.). The nature of feedback (specific, timeliness, frequency,

etc.) influences the feedback. For feedback to be accepted, it is influenced by the recipients' characteristics (such as understanding of feedback). Acceptance mediates feedback (including the individual recipient characteristics) and motivation. Higher acceptance of feedback which is affected by how the feedback is given results in higher motivation, and this, in turn, positively affects the performance of the recipient (directly or indirectly). Low acceptance rate results in low motivation and performance. Barriers to feedback can be from the feedback itself (source, mode, or nature) and/or individual difference characteristics of recipient. Providers of feedback should consider how it should be given to achieve its intended purpose.

Conclusion and implications

While assessment feedback is recognized as a significant factor in teaching and learning practice, the concept is often misunderstood (by learners, teachers, educators, and researchers): "what are the categories of feedback?", "who is supposed to provide feedback?", "what makes feedback effective?', "what hinders feedback from being effective?". The principal aim of the study was to provide a narrative synthesis on these key dimensions of assessment feedback and its powerful role in education using articles of topical importance in assessment feedback literature. Findings from the study suggest that assessment feedback is a catalyst for school effectiveness. However, feedback is inherently complex (Adalberon 2020; O'Donovan et al. 2020). Hence, there is a need for educators to ensure "feedback literacy" in schools (Carless and Boud 2018). It is the task of education institutions to provide feedback and should, therefore, encourage systematic improvement and training in the utilization of feedback (Adalberon 2020). It is also found that although feedback can be in different modes (written or spoken, formal or informal, planned or unplanned, immediate or delayed, direct or indirect, and ad hoc), generally, assessment feedback is categorized into two types in literature: formative and summative (Aoun et al. 2016; Colbran et al. 2016; Ellegaard et al. 2017; Sadler 1989). Formative assessment feedback is given much importance in most studies because it is considered "timely" for application. Nonetheless, there are studies (Deeley 2013; Mubayrik 2020; Taras 2008) that highlight the importance of summative feedback assessment, although its effects may be little. This implies that both formative and summative feedback are all vital and can be blended together for school effectiveness. Winstone and Boud (2020) cites that both formative and summative assessment feedback can be seen as the opposite ends of the same spectrum, implying that they can be used together. From the review, the key players in assessment feedback are administrators, teachers, students, and can be individualized (self). The implication is that the providers of feedback should constantly engage in the feedback process to preserve its unique function and plan on how assessment feedback can be used to improve schools. Feedback from these stakeholders in education were all found to be relevant. The combined feedback can aid "quality and assurance" unit of schools (mostly in higher education contexts) in its efforts to enhance school improvement. This also implies that "quality and assurance" units should not focus on only one aspect of feedback
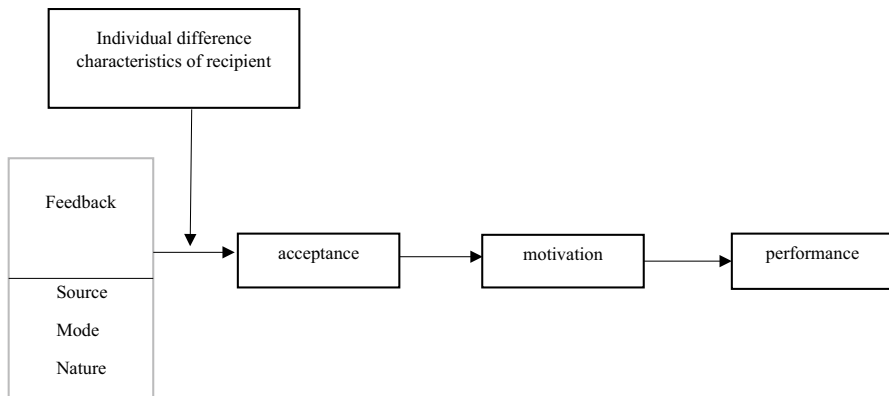
Fig. 3 A modified research model for the power of assessment feedback; *Bohndick et al.* (2019)

but try to incorporate all to know how these stakeholders in education can make their feedback effective. It means that using only one source of feedback as the basis of evaluation may not produce accurate results. Effective feedback was found to be clear, simple, timely, suitable, detailed, and must be acted upon. What hinders effective feedback is sometimes the language used to convey the feedback, why it is being given, its novelty and relevance, and the tone used to communicate the feedback. Negative feedback has the propensity to hinder learning outcomes of students and affect job performance. Also, an understanding of the language of assessment feedback is important (O'Neill et al. 2020). School leaders and learners are to give appropriate feedback as it has the power to influence affective states of the recipient, which ultimately affects teaching effectiveness and learner academic outcomes (Harrison et al. 2015; Montgomery and Baker 2007). Finally, teachers are to act as trainers in peer assessment and self-assessment (PASA) feedback for it to be more accurate and effective. The complexity of feedback makes it difficult for novices and students to utilize it without external support. The author recommends further research into ensuring "feedback literacy" in schools.

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