

Teachers' Feedback in Integrating Ways of Thinking and ICT Competences in Learning Activity

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Abstract

This study was conducted to explore teachers' feedback in integrating ways of thinking and ICT competences in learning activity and how teachers provide feedback in learning activities by integrating both 21st century skills. Teachers' feedback gives the beneficial input to provides a starting point for improvement and to facilitate students in getting the meaningful learning. By using a qualitative descriptive analysis, this research was conducted and collected data through interviews with the selected eight secondary school teachers. Nineteen interview questions were asked to the respondent to get the data. The findings revealed that teachers' feedback is vital components in learning activity but most of teachers give feedback, when they think it is needed and conduct it orally without organize it structurally and regularly. Also, formative feedback, as types of feedback, was commonly employed by the teachers. Then, most teachers also did not comprehend about ways of thinking and ICT competences completely. Critical thinking skills and problem-solving skills were integrated by teachers in reading practice and in understanding grammatical structure. Then, ICT competences were employed as media of learning to support teaching and learning activity. In conclusion, teachers also have the important role in supporting the improvement and better learning activity.

Keywords: Teachers' Feedback, Ways of Thinking, ICT Competences, Learning Activity

INTRODUCTION

In today's quickly evolving educational environment, students are expected to acquire both ICT competencies- such as digital literacy, information management and effective communication through technology. Besides, ways of thinking, such as critical thinking, problem solving, decision making and creativity becomes meaningful skills that should be practiced by students in current information era (Shopia & Iskandar, 2019) (Griffin, Care & Mc.Gaw, 2012). Many national and global education framework have incorporated these competencies, which are crucial for students' success in the twenty first century skills (World Economic Forum, 2016)

In order to successfully develop these essential 21st century skills, students need to be in learning settings that offer them both introduction to these competencies and worthwhile chances to use them in practical settings (Trilling, B., & Fadel, C, 2009). However, learners are not only ones who must cultivate these skills. Making the shift from awareness to active practice calls for organized assistance, direction, and thoughtfully planned learning opportunities. At this points, teachers' role becomes significant in supporting students for facing these challenges (Ekizer & Yildirim, 2023) (Partnership for 21st century learning, n.d).

As stated by Peter Senge in his book "*School that Learn*", teacher plays the critical role in fostering learning in the classroom as the facilitator. Even though, Senge does not explicitly stating that teachers are solely responsible for teaching and learning activity but Senge's work emphasizes the significance of teachers as leaders who cultivate a culture of learning, promote collaboration and assist students in developing system thinking and personal mastery (Senge, Cambron-McCabe, Lucas, Smith, Dutton & Kleine, 2012).

Furthermore, it also supported by (Ghavifekr & Athirah, 2015), (Darmadi, 2015), (Hafriani, 2019; Nugroho & Marzuki, 209) who stated that teachers have a strategic role in helping students play a significant part in preparing students to deal with the challenges of the present and the future. Teachers will perform three roles when conducting learning activities; managerial, instructional, and educational. The role of teachers, specifically instructing their students through knowledge transfer, is associated with the instructional function. The job of the teacher as an educator- namely, teaching students to be morally upright- is connected to the instructional function. Additionally, the managerial function pertains to the teacher's position as class manager, which involves controlling the demands of classroom management in order to facilitate the implementation of learning.

In providing the effective learning environment, there is the interconnected roles between managerial, instructional, and educational with delivering feedback (Danielson, C, 2007), (Hattie, J., & Timperley, H., 2007). Teachers' feedback extends beyond simple correction or praise; it serves multiple purposes that guide and shape the entire learning process. When delivering feedback, teachers inherently perform three interconnected roles such as managerial, instructional, and educational (Hattie, J., & Timperley, H., 2007). These roles reflect the broader responsibilities teachers hold- not only in organizing classroom activities and maintaining order but also in directing students' academic progress and fostering their critical and reflective thinking. Recognizing the multifaceted nature of teacher feedback allows us to better understand its impact on students' development of both cognitive and social-emotional competencies. From the explanation above, it can be inferred that teacher plays the important role as the facilitator to support students in learning activity and facing the new and future challenges.

However, according to Widiastuti's (2021), teachers in many Indonesian EFL classrooms gave comments only infrequently and primarily orally. Due to this lack of feedback, students' academic progress is slowed and they are unable to receive comprehensive feedback for improvement. It also supported by Widyastuti and Pramono (2021), a lot of primary school teachers praised the students who do well and criticized those who struggle without providing helpful advice or specific instructions that may assist all students do better.

Besides, other challenges occur from the teachers' competency and in giving feedback integrated ways of thinking- such as critical thinking, decision-making, and problem-solving- and ICT competence into classroom practice. Bingimlas (2009) notes that barriers such as insufficient pedagogical and technological knowledge, limited professional training, and low teacher confidence often hinder the provision of feedback that fosters higher-order thinking through ICT tools. Similarly, Ertmer and Ottenbreit-Leftwich (2010) argue that even with sufficient technological access, internal factors including attitudes, self-efficacy, and resistance to pedagogical change restrict teachers' ability to design feedback-rich instruction that promotes critical thinking in technology-enhanced environments. Redecker, Ala-Mutka, Bacigalupo, Ferrari, and Punie (2011) further highlight that feedback practices which integrate 21st-century skills and ICT remain underdeveloped, as many teachers focus primarily on corrective or evaluative comments rather than formative feedback that supports students' problem-solving abilities. Park and Son (2020) also found that teachers often lack strategies to combine ICT tools with higher-order thinking prompts, resulting in feedback that is technologically mediated but cognitively shallow, limiting student engagement in decision-making processes. Moreover, Carless and Boud (2018) emphasize that feedback literacy is critical for enabling learners to interpret and act upon feedback; however, many teachers still struggle to design ICT-supported feedback that encourages students to critically evaluate and apply feedback in complex problem-solving contexts. From the problems above, this research was conducted to answer the research questions as follows;

1. How do teachers provide feedback that integrates ways of thinking and ICT Competences in classroom learning activities?
2. What are the types of feedback used by teachers in supporting the development of 21st century skills, particularly ways of thinking and ICT competences?
3. What is teachers' feedback after integrating ways of thinking and ICT Competences in learning activity.

RESEARCH METHODS

This research employed a qualitative research design to examine the perspective and experiences of English language teachers. Qualitative research is particularly valuable when the aim is to explore in-depth meanings, behaviors, and process from the participants' point of view (Cresswell & Poth, 2018). This approach, in this research, is useful for gaining detailed explanations and insights into practical procedures when attempting to understand what teachers think, do, and experience in their own words (Merriam & Tisdell, 2016). For educational research that focuses on classroom practices and teacher attitudes, qualitative research is ideal since it highlights context and the subjective interpretations people assign to their actions (Denzin & Lincoln, 2018).

Furthermore, there are eight teachers as the participants of this research who are selected by using purposive sampling as the data source. This sampling technique is commonly employed in qualitative studies to deliberately select individuals who have specific knowledge or experience related to the research topic (Palinkas et al., 2015). Interview was conducted as the research instruments. Semi- structured interviews, which are frequently employed in this qualitative research to examine participants' experiences and perceptions while providing freedom for probing questions, were utilized to collect data (Kvale & Brinkmann, 2009). Then, the data of this research is the words, utterances, and explanations stated by teachers aligning with the core principle of qualitative research that focus on textual and narrative data rather than numerical forms (Patton, 2015).

The nineteen interview questions are given to the respondent to get the data. These questions were intended to investigate teachers' perspective on effective feedback, its function in developing 21st- century skills, including ICT competencies and ways of thinking (e.g., critical thinking, decision making and problem solving), and its use in the classroom. Previous foundational studies on feedback and 21st century skills (Hattie & Timperley, 2007; Nicol & Macfarlane-Dick, 2006; Shute, 2008; Trilling & Fadel, 2009; Partnership for 21st Century Learning (P21), 2009) provided valuable insights that informed the development of these questions. The interview questions are grouped into thematic components as shown below:

Components	No.	Questions
General Understanding of Feedback	1.	How do you define effective feedback in your teaching practice?
	2.	What are your goals when giving feedback to students during classroom activities?
	3.	In what ways do you believe feedback can influence students' ways of thinking?
Integration of Ways of Thinking	4.	How do you provide feedback that supports students' critical thinking and problem-solving skills?
	5.	Can you give an example of feedback you gave to help students reflect more deeply or think creatively?
	6.	How do you know that your feedback is encouraging higher-order thinking in your students?

Integration of ICT-Competences	7.	What kinds of digital tools or platforms do you use to provide feedback in your classroom?
	8.	How do you use technology to monitor students' progress and give feedback?
Classroom Application and Practices	9.	How do you incorporate feedback into your daily classroom learning activities?
	10.	How do you ensure that your feedback is timely and relevant when students are working with ICT tools?
	11.	Do you adapt your feedback methods based on the task, technology used, or students' need? Can you explain how?
Challenges and Reflections	12.	What are challenges have you faced in integrating ways of thinking and ICT competencies through your feedback?
	13.	How do you assess whether your feedback is effective in promoting students' cognitive and digital skills?
	14.	In your opinion, what professional support or training would help you provide better feedback that fosters both thinking skills and ICT Competences?
Types of Feedback	15.	What are the types of feedback used by teachers in supporting the development of 21 st century skills, particularly ways of thinking and ICT competences?
Ways of thinking and ICT competencies Integration	16.	In your opinion, to what extent do you agree that participating a training or a workshop can improve the knowledge regarding the skills in 21 st century
	17.	Do you know about 21 st century skill (Critical Thinking, Problem-Solving, Decision Making, ICT-competences, etc)?
	18.	After integrating ways of thinking and ICT competences into your teaching, how would you describe your overall experience in giving feedback to students?
	19.	What challenges or successes have you noticed when giving feedback in a learning environment that combines critical thinking and digital technology?

Source: (Hattie, J., & Timperley, H, 2007; Shute, V. J., 2008; Trilling, B., & Fadel, C, 2009; Partnership for 21st Century Learning (P21), 2009; Nicol, D. J., & Macfarlane-Dick, D, 2006).

RESULT AND DISCUSSION

In answering the research questions such as (1). How do teachers provide feedback that integrates ways of thinking and ICT Competences in classroom learning activities?, (2). What are the types of feedback used by teachers in supporting the development of 21st century skills, particularly ways of thinking and ICT competences?, (3). What is teachers' feedback after integrating ways of thinking and ICT Competences in learning activity.

In answering the first research question, fifteen questions are given to the respondent. The results reveal that generally most of teachers familiar with feedback that commonly given to students but they did not give the feedback structurally and regularly. Most teachers give feedback, when they think it is needed and conduct it orally. So that, they give feedback based on the assessment that are given to students.

However, teachers have clear knowledge of how important it is to administer assessments. They were discovered to capable of performing certain evaluations. Teachers comprehend accurately in using formative and summative assessment. The results of interview showed as follows;

".....I usually give feedback to my students orally. Mmm....kalau dirasa itu dibutuhkan. I give the feedback to my students. As an example, when in my students' speaking activity, I tell them if they did some errors."

".....biasanya saya berikan feedback saat itu atau setelah saya koreksi. Ini pake Bahasa Inggris atau boleh Bahasa Indonesia saya jelaskan nya? Saya campur aja ya. As an example, I teach students of descriptive text in the tenth grade at senior high school, if I can read the students'

result at that time, I call the students and give it orally but If I can finish it at that time, I usually make a note in their book”

“ I know the goals of giving feedback, to give the details information for students about what are aspect that should be improved but in practice I did not make it structurally or regularly, kalua saya rasa butuh aja sih si students itu harus meningkatkan ini ini.... ”

From the research findings, it can be inferred that giving feedback for students become essential and it also confirmed by Ida Ayu Made Sri Widiastuti, 2021 in her research that Feedback is vital component in supporting teaching and learning activity. However, her research findings stated that although teachers did feedback to students following the administration of various forms of assessment in the classroom, but this practice was not routine. It also supports this research findings that teacher did not conduct the feedback regularly.

Furthermore, the research findings also revealed that teacher’s feedback also did not explicitly integrated ways of thinking and ICT competences completely. Most teachers were familiar with critical thinking and problem solving as skills in ways of thinking and ICT usage was only as media to support in teaching and learning activity. It is confirmed by (Ghavifekrs and Athirah, 2015), even when school have access to sufficient technology, these resources are frequently underutilized because teachers lack the motivation, confidence or professional training to integrate them meaningfully into teaching practices. However, teachers were mostly used some application to give the feedback such as Google Classroom and Zoom Meeting so that ICT was employed as media to support teaching and learning activity.

“Nah , saya ga begitu paham ya the specific theory tentang ways of thinking dan ICT yang mba nya sampaikan tadi, tapi saya mengintegrasikan kemampuan berfikir kritis (critical thinking skills) dalam reading practice saya , saya mengajar recount dan narrative kebetulan jd saya masukan disitu...”

“I give the overview first, bahwa untuk di tahap critical thinking itu harus pertanyaan seperti apa and if the students belum mencapai sana, I tell them to find another questions.”

“Saya biasanya langsung aja kalau mau kasih feedback, saat itu juga ketika proses pembelajaran., jadi bisa dikatakan formative feedback ya mba?....”

For answering the second research questions, the researchers asked the teachers, what kind of feedback’s types known by teachers. Then, most of teachers stated that formative feedback that was commonly employed by teachers. Formative feedback was given by teachers in ongoing feedback given during the learning process to help student improve before final evaluation.

The result of teachers’ interview in the third research question illustrates that most of teacher from eight stated that they have integrated ways of thinking and ICT- competences.

“I did some reading exercise integrating by problem solving skill and critical thinking”

“I implement Sigil application in teaching and learning process before pandemic in which we can share our slides or PPT in projector by using handphone.....and I think it useful.”

“saya belum sepenuhnya memahami tetapi penggunaan teknologi sebagai media pembelajaran yang saya lakukan”

“...critical thinking and problem solving in grammar learning”

“....gaining critical thinking and reading comprehension”

“...Collaboration by working on assignments in pairs/group,..”

“Communication by asking and giving opinions, critical thinking by probing, comparing, analyzing”

“Make them at least to be literate in technology like GRC or zoom...”

“Actually, I think we have to get some workshop about ways of thinking itself, I think most of teachers only familiar with critical thinking and problem solving, that’s it....”

Even though, teachers use ICT as media to support teaching and learning activity but most of teachers have comprehended to others 21st century skills particularly ways of thinking. Some teachers integrated critical thinking skills and problem solving in teaching and learning activity. Some teachers stated that some workshops can be conducted by school to improve teachers' knowledge about ways of thinking and ICT competences in depth.

Then, it also confirmed in this research that it is needed for teachers to get workshop to improve their knowledge in integrating ways of thinking and ICT competences not only in learning activity but also teachers' feedback that boost students' ways of thinking skills. It also supported by Ghavifekr and Rosdy (2015) who stressed that teachers must receive regular training in order to integrate ICT in the classroom effectively, particularly in areas related to pedagogical transformation and evaluation procedures. Li and Jeong (2020) also confirmed that professional development program emphasizing 21st century skills and feedback mechanism greatly in enhancing teachers' instructional quality and their capacity to encourage higher- order thinking in their students. Moreover, Voogt et al. (2013) emphasized that focused workshops and cooperative learning communities might improve teachers' comprehension of how to provide feedback in line with ICT-based, students-centred learning.

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CONCLUSION

In conclusion, teachers feedback plays a significant role to support students' development both ways of thinking and ICT competences. From the results, it indicates that teachers act as facilitators who not only manage learning activities but also guide students to reflect, analyze, and think critically through their feedback. Findings stated that feedback is often delivered orally and given on the spot when needed rather than as part of a systemic routine. Teachers gave the feedback in correcting students' speaking skill and grammatical errors. Then, critical thinking and problem solving were dominant skills that teachers highlighted in reading comprehension. In incorporating ICT competences, some teachers integrated digital platforms or online resources to monitor student progress and provide targeted comments. However, ICT based feedback practices were not consistent across all participants, with integration depending largely on the teachers' familiarity and comfort with technology. It also illustrated that lack of teachers' comprehension in integrating ICT completely becomes the challenges.

Furthermore, formative feedback was commonly employed by teachers in this research. Formative feedback was given by teachers in ongoing feedback given during the learning process to help student improve before final evaluation. Teachers used formative feedback not only to correct language errors—such as grammar and pronunciation—but also to encourage higher-order thinking, particularly in reading comprehension tasks. Critical thinking and problem-solving were the most frequently targeted skills, with feedback often prompting students to evaluate texts more deeply or explore multiple solution pathways.

Then, the teachers agreed on the need for professional development workshops to strengthen their skills in designing ICT-supported feedback strategies that intentionally promote reflective thinking, problem-solving, and decision-making. After attempting to integrate both ways of thinking and ICT competences, teachers reflected on the dual benefits and challenges of the approach. While some noted improvements in student engagement, analytical skills, and digital literacy, others highlighted difficulties such as time constraints, limited ICT training, and the irregularity of feedback provision. Future research should expand the participant pool beyond the eight teachers involved in this study and provide a broader exploration of feedback practices across varied educational contexts.

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