

Unravelling the Impact of the Visible Thinking Approach on Students' Learning Experiences in a Tertiary Drama Classroom

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Abstract

This qualitative study explored the impact of the Visible Thinking (VT) approach on students' learning experiences. It was underpinned by Vygotsky's social constructivist theory (1962, 1978) and Ritchhart's Visible Thinking (VT) approach (2006), founded by Harvard University's Project Zero (PZ). The data was collected from a focus group discussion (FGD), followed by a thematic analysis of the transcribed data. The participants were students of Communication Through Drama (EPC522), a compulsory course for the third-semester students of the LG240 programme (Bachelor of Applied Language Studies-English for Professional Communication) at the Academy of Language Studies, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia. The study aimed to address the lack of emphasis on developing creative and critical thinking skills in Malaysian higher education, which has led to graduates struggling with problem-solving and employability. Despite the significance of interactive and structured thinking routines, their application in higher education remains underexplored, particularly in student-centred and collaborative learning environments. This research sought to fill this gap by investigating the effectiveness of the VT routines in enhancing interactive discussions and fostering higher-order thinking in a Malaysian university drama classroom. The findings revealed the positive impact and the feasibility of implementing the VT routine. Despite the challenges of conducting drama activities online, students embraced this new educational experience, creating a more interactive and student-centred environment. These results also demonstrated how drama activities integrated with the VT routine can enhance students' interactive roles, thinking and communication skills, aligning with the Malaysian Higher Education Blueprint (2013–2025), which emphasises students' mastery of communication and thinking skills to meet future demands.

Keywords: *Visible Thinking, Project Zero, Social Constructivist, Thinking Routines, Drama Classroom*

Introduction

As an educational tool, drama requires direct human involvement and engagement, through which creative and critical thinking skills are highly encouraged. As Bsharat (2021) aptly mentioned, learners engaging in drama recognise the significance of communication and concentration, as drama can only be done in a meaningful interactional context. Alasmari (2020) views drama as a teaching tool that stimulates the “whole brain” and activates various types of intelligence. It thus targets students who need a challenge, as well as students who cannot be reached through conventional teaching methods. Due to the pandemic, drama classroom instructors and students faced a new challenge to look into online resources for drama interactions. In addition to learning how to utilise digital pedagogy successfully, drama teachers started to consider more deeply how digital media may make drama more educational (Karaosmanoğlu et al., 2022). Since the data

was collected during the ongoing Open and Distance Learning (ODL) mode due to the government's enforcement of MCO (Movement Control Order), examining the manifestation of the VT approach in a virtual environment was a timely response. However, regardless of the learning modes, the study's findings will still be relevant for future drama education because the focus was on integrating VT routines within the DE activities, which is applicable in both online and physical settings.

This study attempted to adhere to the demand for mastery of thinking skills in higher education by integrating Project Zero's VT routines in drama classroom activities. For instance, creating storyboards and coping with the hindrance of online drama activities while applying VT routines can provide practical, hands-on experiences that develop these crucial skills. Since its foundation in 1967, Project Zero has created numerous thinking routines, each with various activities for educators worldwide. Currently, 83 VT routines are available for educators, allowing them to maintain professional autonomy and tailor them to fit their students' needs and educational environments (Kloosterman, 2024). One of these was selected to be applied in this study, i.e. the Ladder of Feedback (LoF). The two research questions addressed were:

1. How does the VT routine impact students' experiences in the virtual drama classroom?
2. To what extent is the Visible Thinking approach applicable in the Malaysian tertiary drama classroom?

Literature Review

Social Constructivism and the Demand for Enhanced Thinking Skills

Malaysian Education Blueprint (2013-2025) states that the 21st-century learning orientation is on developing learners as autonomous and all-rounder individuals. Its emphasis is on enhancing critical and creative thinking skills and a collaborative learning environment, within which interaction plays an integral part. This adheres to the social constructivist principles. Social constructivism is a teaching approach that emphasises student participation, discussion, and sharing. It incorporates various groupings and interactive strategies, including whole-class conversations, small-group discussions, and paired student engagements. These activities advocate thinking by encouraging students to share ideas, brainstorm solutions, identify cause-and-effect relationships, solve problems, or expand their existing knowledge base (Noor Al-Qaysi et al., 2021).

Thinking creatively and critically is crucial because it enables individuals to view problems and situations innovatively. Anjarwati et al. (2018), Atmojo and Sajidan (2020), and Azid and Md-Ali (2020) note that thinking critically, which correlates to creative thinking, enables people to solve problems with a wide range of solutions. Integrating different situations quickly and generating various ideas when faced with problems are vital benefits of strong thinking skills. Many employees wish they had been exposed to creative thinking during their education since creativity, which relies on accumulated information, is not instan-

taneous (Mahmud & Wong, 2022). Moreover, the ability to think creatively allows individuals to generate multiple solutions to problems, enhancing their problem-solving capabilities. This is crucial in the workplace, where providing constructive ideas can make a significant difference.

However, the development of students' creative thinking skills has received limited attention, resulting in many graduates struggling to secure job opportunities due to a lack of creativity (Wyse & Ferrari, 2014). Despite the importance of thinking skills in academic and professional success, Malaysian higher education often falls short of fostering these abilities; some scholars argue that the current educational system stifles creativity because it lacks a focus on teaching and applying new information to foster creative problem-solving skills (Mahmud & Wong, 2022). The rise of Artificial Intelligence (AI) technology poses another challenge to sustaining genuine human thinking in classroom activities. AI tools, like ChatGPT, may simplify interactive processes, reducing opportunities for students to engage in authentic social interactions. Hence, more room for natural human interactions involving thought-provoking activities should be created in educational settings to balance AI's domination in various aspects of life. As stressed by Water (2021), it is crucial to encourage natural interactive routines, emphasising the thinking process within a social context.

Project Zero and the Visible Thinking Approach

Visible Thinking (VT), developed by Harvard University academics and teachers globally, is part of Project Zero (PZ), established by Nelson Goodman in 1967 to improve education. VT, a core PZ project by Ron Ritchhart (2006), integrates students' thinking development with content learning across subjects. Project Zero's VT is a relatively new concept within the field of education. Articles and research projects exploring the concept of making thinking visible began to appear in educational journals in the early 2000s. VT is generally defined as a "broad and flexible framework for enriching classroom learning" (Visible Thinking, Introduction, 2016). Research conducted to explore VT arose after educational studies found that skills and abilities alone are not enough to cement knowledge and learning for students. Learning is more apt to happen when content is addressed with alertness and positive attitudes on the part of the students (Visible Thinking, Introduction, 2016). Ritchhart and Church (2020) identify six ways thinking routine practices transform classrooms: fostering deep learning, engaging students, changing student and teacher roles, enhancing formative assessment, improving learning, and developing thinking dispositions. PZ has created numerous thinking routines, each with various activities for educators worldwide in which interaction becomes the focal element, aligning with social constructivism.

The Ladder of Feedback (LoF) routine guides interactive discussions by proposing specific language functions (Project Zero, n.d.). This routine (Figure 1) was introduced and described to the students before starting the DE stages (Figure 2) as stipulated in the EPC522 syllabus. Since VT promotes making the thinking process "visible" and documenting the results of thinking, it can be likened to students' group interac-

tions in preparing the storyboard (DE Stage 1). The study attempted to gauge the students' insights into making thinking a conscious routine by explicitly applying the proposed LoF language structures in discussing their storyboards for their movie adaptation assessment. The results of their thinking were made visible by documenting them in the form of PowerPoint presentations.

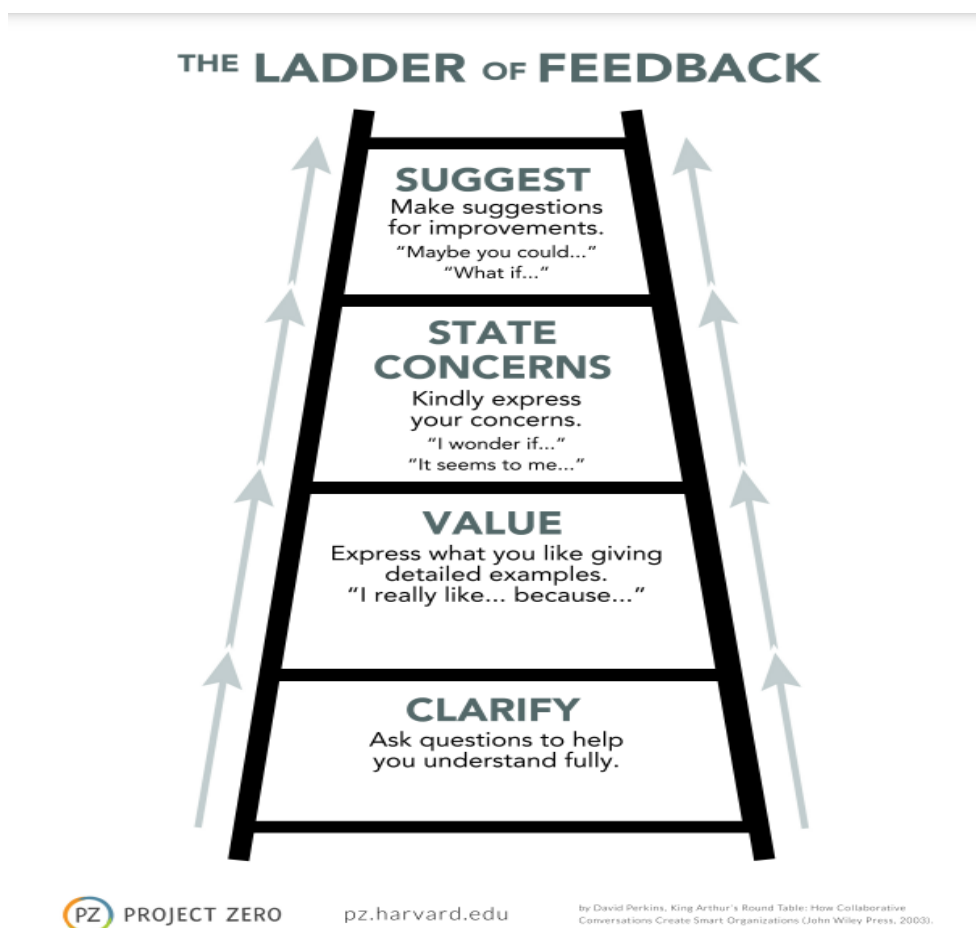


Figure 1: The Ladder of Feedback VT routine, Project Zero, Harvard Graduate School of Education

According to a study by Gholam (2018), thinking routines in higher education encourage students to employ cooperation, communication skills, and higher-order thinking, boosting student participation in every learning process. The exercises can be incorporated into several lessons, and the students learn from one another. Many students claimed to have synthesised, examined, reflected and expanded their thinking (Gholam, 2018). Most studies about thinking routines have been carried out in a few areas, such as early childhood and higher education. Some studies focused on how thinking routines enhance thinking skills, including critical thinking skills in elementary school (Manurung et al., 2022). Thus, there is a need for more discussion about the impact of thinking routines on students of higher levels.

Stages	Proposed Interactive Group Activities
1	Planning and Outlining (Adapting an existing script for classroom dramatisation) • Selecting movie/drama for script adaptation • Justifying the choice • Discussing the adapted version • Completing the storyboard • Presenting the storyboard • Getting approval
2	Playing - Sharing of the material to be dramatised (reading/telling/choral reading) - Trying-on (brief encounter of life as the character and finding elements of voice and body that work in portraying the character) - Dramatisation (developing the theme through dramatic actions) • Preparing adapted script • Writing the script • Casting/Delegating roles • Discussing the characters • Arrangement of scenes/acts/climax/plot twist
3	Evaluation - Reflective analysis of learning experience (discussion of personal reactions, the content and theme, and how to extend experience/skills to other real-world situations and circumstances) - Discussion and evaluation of initial dramatisation of an adapted script in Stage 2 Workshop (Rehearsal) • Dramatisation of play based on an adapted script • Critique session, discussion and evaluation of performances.
4	Replay - Continuous enactment from previous stages. - Students incorporate new materials or changes in acts/scenes (if any) obtained from further reading, observation or new ideas. - Discussion of play based on an adapted script. • Rehearsing the script • Reading aloud (verbal and non-verbal expressions) • Discussing props, costumes, music • Discussing technical aspects of shooting for final drama production.

Figure 2: The Drama Exploration (DE) Stages based on EPC522 Syllabus

Methodology

Research Design

Suiting its objectives, the study is qualitative in its design. Creswell (2018) states that qualitative research is a method for examining and evaluating the interpretations that individuals or groups make of a social or human situation; in the context of this study: students' interaction in the drama classroom. Data collected in the participant's surroundings, data analysis that progresses inductively from details to general themes, and the researcher's interpretations of the data are all components of the research process, as are emerging questions and procedures (Creswell, 2018).

Data Collection

Data collection was conducted through a focus group discussion (FGD). The instrument, a set of questions to gauge students' insights, was developed based on the research questions and the underpinning theories.

Students were briefed on the steps of the LoF VT routine (Figure 1) to be applied in any part of the DE stages. The FGD was conducted via Google Meet after the completion of the group interactive activities involving the four stages of Drama Exploration (DE) as stipulated in the course syllabus.

Sampling

Employing purposeful sampling, the sample comprised 19 UiTM undergraduates of the Communication Through Drama (EPC522) course. In qualitative research, the concept of purposeful sampling enables the researcher to select individuals who can contribute to an understanding of the central phenomenon in the study (Creswell, 2003, 2007, 2008; Patton, 2015). Sampling for qualitative research focuses on selecting information-rich cases to supply a complete and sophisticated view of a phenomenon from various angles (Liamputtong, 2007). The number of respondents required is very much dependent on the purpose of the study (Kvale, 2009).

Data Analysis

The FGD was recorded and transcribed verbatim for a thematic analysis, assisted by Nvivo-14. Excerpts from the transcribed FGD supported the analysis of findings, which were discussed based on underpinning theories and relevant literature.

Limitations

Gauging the insights from one group of students in a particular setting may be seen as a limitation. However, it is crucial to note that being qualitative in its design, the study provides an in-depth description of this specific scope to meet its objectives rather than aiming for generalisation to a larger population. As emphasised by Patton (2015), qualitative data collection prioritises the depth and richness of information over the number of participants, allowing for a more nuanced understanding of the phenomenon under study. Another limitation of this study is its reliance on self-reported data, which may be subject to social desirability bias, where participants provide responses they perceive as favourable rather than fully candid insights (Podsakoff et al., 2003). Focus group discussions, in particular, may amplify this tendency due to group dynamics, as students might conform to dominant opinions rather than express differing perspectives (Krueger & Casey, 2015). Furthermore, self-reported data may not always accurately reflect students' actual engagement or cognitive processes, as individuals may struggle to articulate their thinking explicitly (Patton, 2015). To mitigate these limitations, the researcher initially urged the students to respond honestly, emphasising the significance of their genuine insights to improve the drama course and ensuring their confidentiality. The study also triangulated findings with direct excerpts from verbatim transcripts to ensure authenticity and transparency in data interpretation. Additionally, the research instruments were validated by two experts in

the field with PhD qualifications and extensive teaching experience to ensure the questions adequately captured the intended concepts (Creswell & Poth, 2018; Patton, 2015). The use of mechanical recording (Google Meet video recordings) further enhanced reliability by allowing for accurate data verification and minimising observational bias (Maxwell, 2016).

Findings and Discussion

Having applied the LoF thinking routine in the DE stages, it emerged as a critical component discussed by the participants in the FGD. Two main themes and several sub-themes were derived from the thematic analysis of the students' FGD responses, assisted by Nvivo-14. The categorisations were based on the RQs used to guide the coding of the FGD responses. Table 1 shows each theme with its corresponding RQ and categorisations, the number of files (two to represent the two focused areas in the transcription), and the number of references (to show the frequency of mentions in the FGD). The following discussion will be evidenced by extracts from the FGD transcriptions (students' names were replaced by pseudonyms S1, S2, etc. for confidentiality) and discussed in relation to underpinning theories and literature.

Table 1: Impact and Applicability of VT Routines (Themes 1 and 2)

	Categorisation of the Emerging Themes	Files	References
RQ1	<i>How does applying the VT routine impact students' experiences in the virtual drama classroom?</i>	2	60
Theme 1	Impact of the VT Routine	4	40
1.1	Clarity of Tasks	2	2
1.2	Cohesion and Coherence	2	3
1.3	Confidence and Communication Skills	2	3
1.4	Language Formality & Politeness	2	5
1.5	Encouraging Thinking Aloud	4	4
1.6	Documenting and Visualising Thinking Results	2	4
1.7	Developing Critical and Creative Thinking	2	4
1.8	Planning and Organisation	1	2
1.9	Problem-solving and Decision-making	2	7
1.10	Teamwork and Collaboration	2	5

Categorisation of the Emerging Themes		Files	References
RQ2	<i>To what extent is the Visible Thinking approach applicable in the Malaysian tertiary drama classroom?</i>	2	40
Theme 2	The Applicability of the VT Routine	2	9
2.1	Online & Physical Interactions	2	5
2.2	Suitability to different levels of study	2	2
2.3	Flexibility	1	1
2.4	Subjects other than Drama	1	1

Theme 1: The Impact of the LoF VT Routines

This first theme generated from the thematic analysis consisted of 10 sub-themes, as follows:

Theme 1.1: Clarity of Tasks

Students found that using the LoF method clarified their project completion process, enabling them to express opinions freely and better understand the necessary information:

Yes, these steps of LoF have made each process in completing the project clearer, I would say. It certainly gave us the flow to allow ourselves to express each of our opinions freely, and following the necessary information gathered, it gave us to have more clarity in what we wanted to deliver in the project. (S1)

I think the method has helped our discussion to achieve better clarity, and it was very much easier for us to communicate as a team through the LoF method. And also, I think that the directions of our discussions were very clear because we followed the sequence every single meeting, and we were able to quickly come to a conclusion. (S2)

This aligns with the principles of the Visible Thinking approach, which emphasises clarity in thinking and communication. When students follow the LoF sequence, it guides them to express their thoughts clearly, enhancing their understanding of the project's objectives: Students use thinking routines to discover, talk about, record, and administer their thinking, making thinking a visible feature of the classroom (Ritchhart & Church, 2020). These routines are essential for thoughtful learning and promote metacognition, helping students become more aware of their thinking processes" (Ritchhart et al., 2011). From a social constructivist perspective, clear communication among students and educators is vital for the construction of practical knowledge (Vygotsky, 1978).

Theme 1.2: Cohesion and Coherence

Students mentioned that the LoF routine improved their flow of discussions by encouraging politeness, gratitude for sharing ideas, and practical suggestions. It prevented lengthy meetings and guided discussions to quick conclusions:

I think in terms of the flow of discussion, it went really well because I remember that we used the LoF method, where we would thank each other for giving our opinions or for sharing their ideas. And then, I remember the other group members would come up with suggestions.
(S2)

I think our meetings rarely ever got lengthy, so for me that's how I see um the LOF method impact our flow of discussion.
(S3)

I feel like having this LoF really organised our flow of discussion. If not, it's going to be like randomly jumbled thoughts, suggestions, and questions, so having this really helps guide us to a conclusion to all questions and concerns.
(S1)

Cohesion and coherence in discussions are essential components of Visible Thinking. These elements enhance the effectiveness of group discussions and align with the principles of the VT approach (Ritchhart & Perkins, 2000). In social constructivism, meaningful interactions and the collaborative construction of knowledge are promoted (Vygotsky, 1978). These features also align with collaborative learning principles, emphasising effective group interactions and mutual support (Slavin, 1996). In cooperative learning, cohesion and coherence are essential for effective group processes (Johnson et al., 1994a).

Theme 1.3: Confidence and Communication Skills

Students reported that LoF improved their confidence and communication skills by fostering a supportive environment that encouraged them to express ideas and complement one another regardless of perceived quality:

Personally, yes it did improve my confidence and communication skills because I believe that it allows me to identify my strengths and weaknesses, especially when I receive helpful suggestions and clarifications from my team members that also allows me to improve any of my shortcomings, and also vice versa.
(S4)

For me, personally, I always have the most worries every time there's an idea-sharing session because I tend to get insecure with my own ideas. Sometimes I get scared to give my ideas because I think they're not as good as the ideas given by others, but the LoF method it somehow

taught us to encourage one another to speak up and also to complement each other regardless of the idea that we threw in, and I think that really helped me to become more confident.
(S3)

Developing confidence and communication skills is fundamental to Visible Thinking (Ritchhart & Perkins, 2000). The LoF method creates an environment where students feel secure expressing their thoughts, leading to improvements in confidence and communication skills. This adheres with the principle of social constructivism, which emphasises the role of social interactions in fostering cognitive development (Vygotsky, 1978). Besides, this demonstrates collaborative learning principles, where students learn through social interactions, building confidence and communication skills (Bruffee, 1993). Cooperative learning similarly highlights the role of social interactions in improving confidence and communication (Johnson et al., 1994a). Encouraging students to overcome insecurities and speak up, the LoF routine also promotes learner-centredness, empowering students to take ownership of their learning and express themselves (Weimer, 2002).

Theme 1.4: Language Formality and Politeness

The participants stated that using LoF led to a combination of formal and informal language, maintaining professionalism during discussions. It encouraged politeness and constructive handling of disagreements:

As for language used, since all of us are friends, we could freely be casual with each other; however, when it comes to communicating professionally, we somehow ended up being formal with each other to set the tone of every LoF process smoother.
(S1)

Okay, in my opinion, I think the LOF method helps in guiding students to a more polite discussion, where as I remember, in terms of disagreement, instead of completely disregarding the idea or opinion given, I remember we came up with a better suggestion that elevates the idea or opinion.
(S3)

This influence on language formality and the emphasis on professional communication align with research on classroom discourse, where language use significantly impacts the classroom environment (Nystrand, 2018). Politeness strategies are part of effective classroom communication (Gardner, 2001). The balance between formal and informal language use indicates an awareness of context and audience, a vital aspect of the Visible Thinking approach (Ritchhart & Perkins, 2000). As important as the realisation that talk is necessary for classroom teaching, Cazden (2001) discusses the importance of learners acquiring the discourse relevant to the discipline. She differentiates classroom discourses from the informal talk students engage in outside of school; the more significant the difference between the two, the greater the effort need-

ed to enable students to learn the new role. Politeness and constructive discourse are crucial for effective collaboration in a social constructivist learning environment (Vygotsky, 1978).

Theme 1.5: Encouraging Thinking Aloud

It was gathered from the FGDs that the LoF routine and DE stages involving reading aloud had improved brainstorming, idea sharing, and open discussion among the students, allowing idea expressions and collaborative idea development:

In Stages 4 and 3, we had to read aloud, and especially in Stage 4, where we had to discuss the costumes, the background music, and, you know, read the script. I think those stages are definitely beneficial because in each stage, we learned something. (S4)

From what we have all experienced by applying LoF, I think, by a process of discussion, it's where you actually just throw out ideas, and the moment that we are allowed to actually say anything, to actually just, you know, by thinking aloud, the idea might not be filtered yet, so you discuss it with your friends and what not, and I think it is one of the ways that it has affected us. (S1)

At first, when we just wrote the description whatsoever on our own, we didn't, like, really voice it out, but when we do the script reading together we can notice like "oh here's there's something lacking here", and like, "here we should add this", and then oh, this part "maybe it's a bit off, maybe we should like change it" and then we add another part to make sure that the flow is aligned with the story according to the storyboard. (S2)

Encouraging thinking aloud is a central feature of visible thinking, promoting open, unfiltered expression of ideas (Ritchhart & Perkins, 2000). Students' recognition of the benefits of "thinking aloud" by applying LoF proves this statement. VT promotes thinking by creating opportunities and making students' thinking visible, using strategies such as thinking routines (Ritchhart et al., 2006). The LoF method facilitates this process with structured language functions for students to use in discussing and voicing their thoughts. From a social constructivist perspective, open discussion and collaborative idea development are critical elements of knowledge construction through social interaction (Vygotsky, 1978). Encouraging thinking aloud through the LoF routine also reflects the collaborative learning approach, which emphasises group discussions and collective idea development (Dillenbourg, 1999). It also aligns with cooperative learning, where students share and exchange ideas to improve their collective understanding (Johnson et al., 1994a). Encouraging students to voice their thoughts openly and unfiltered is also fundamental to classroom discourse, as it promotes active and interactive learning (Seedhouse, 2010).

Theme 1.6: Developing Critical and Creative Thinking

The participants agreed that applying the LoF structure encourages them to adapt and customise it to enhance their critical thinking skills. It helps stimulate critical and creative thinking:

It's a responsibility for each one of us to express our thoughts and I think LoF would be a good way to start the students to have even better skills in critical thinking and also soft skills.
(S1)

I believe that if you have this kind of Ladder of Feedback structure in the discussion, it will really help you become more skillful in communicating and make you a critical thinker too.
(S2)

Developing critical and creative thinking aligns with the goals of the Visible Thinking approach, which emphasises thinking skills (Ritchhart & Perkins, 2000). The LoF structure provides a framework that supports this development. This aligns with the results of a study by Gholam (2018), which found that thinking routines in higher education encourage students to employ cooperation, communication skills, and higher-order thinking, boosting student participation in every learning process. The exercises might be incorporated into several lessons, and the students might learn from one another. Many students claimed to have synthesised, examined, reflected and expanded their thinking (Gholam, 2018). Social constructivism sees social interactions and collaborative learning experiences as catalysts for critical thinking (Vygotsky, 1978). Collaborative learning focuses on critical thinking as students engage in dialogues, share perspectives, and analyse information collaboratively (Panitz, 2019). In addition, cooperative learning promotes the development of critical thinking skills through interaction and discourse (Johnson et al., 1994b).

Theme 1.7: Documenting and Visualising Thinking Results

Thinking routines, documentation of student thinking, and reflective professional practice are emphasised to create a culture of thinking and learning (Ritchhart et al., 2011). As the participants stated, the LoF routine facilitated thinking-aloud practice and enabled them to document and visualise the results of their thinking. It improved the clarity of ideas and aided in brainstorming.

Yes, I agree that LoF is good for thinking aloud practice and also in documenting the results of our thinking because from our group discussion we actually do come up with storyboard and script...having LoF really is helpful with the thoughts like visual and written forms, because when we say it out loud we hear it better, we understand it better, so we know what to add and what not to add.
(S5)

We used WhatsApp mostly to communicate and share ideas about the plots we had planned. Of course, we shared a Google document so we could go through our script and how we would edit the video since we were doing this completely online. So, if we were to edit anything, we had to do it in unity, I think. We had to reassure everyone that we could come to a conclusion on how to do things together. (S6)

So I think from the story board that we did as a collaborative process, a lot of thinking was involved in terms of developing, visualising and documenting whatever things that we needed to improve or we could do better. When it comes to our emotions and acting them out, I think the SB definitely helped us. (S4)

Documenting and visualising thinking results are central to Visible Thinking (Ritchhart & Perkins, 2000). The LoF method enhances these processes based on students' reflections. In the social constructivist framework, documenting and visualising ideas can lead to shared understanding and knowledge construction (Vygotsky, 1978).

Theme 1.8: Planning and Organisation

The participants recognised the importance of planning and organisation throughout the process. They learned that following a structured plan is crucial for effective discussions. The introduction of the DE stages was particularly appreciated because it encouraged more ideas and valuable inputs, preventing discussions from being limited to a single idea:

Throughout the process, I learned that planning is important. Planning and following the plan to make it very organised is the most important part. (S3)

I am really grateful to the four stages because I realised that my group was able to produce more ideas and useful input throughout the discussions. Without the four stages, we would just be stuck with one idea, and then we would have only a few ideas here and there. (S4)

The structured nature of LoF integrated into the DE stages encouraged students to think critically about the tasks at hand, helping them to map out their goals and achieve a clear direction for their discussions. This task aligns with the promotion of Self-Regulated Learning (SRL). Classroom tasks should be designed to foster a sense of self-worth for SRL; students who are optimistic about their ability to pick up SRL skills will be more determined regarding devoting time and energy to self-regulation (Schunk & Miller, 2002). Challenging and exciting classroom activities should include SRL; Randi and Corno (2000) imply that teachers should design classroom activities that demonstrate the use of SRL skills and involve using them (in this context, discussing and creating a storyboard for a movie adaptation guided by the LoF and DE

stages). This should be followed up with questions (feedback and scaffolding by the lecturer) requiring students to think of how to improve the planning and how an objective could be reached.

Theme 1.9: Problem-solving and Decision-making

Problem-solving and decision-making are fundamental educational skills, particularly emphasised in collaborative and cooperative learning theories. During the FGD, students discussed how the DE stages integrated with the LoF routine assisted them in addressing challenges and making decisions together. They highlighted several instances where problem-solving and decision-making were central to the discussion. They mentioned technical issues during video recording, challenges related to the script, and the need to decide on the best ending and plot twists:

I would say that the activities that required us to solve problems were in stage 4 where we discussed how exactly to record the video. Unfortunately, we had a lot of mishaps recording it, but we solved a lot of things, and we went through everything. Thank God we managed. There was one time where we wanted to do a separate Google Meet session where everyone did their own scene, but apparently because of some hiccups and technical problems here and there required us to think for options and we needed to solve the problem. (S6)

For the problem-solving, in the final stage, we had to discuss the angles of how we were going to record our scenes. We had to solve this because we wanted to make the scenes look like the characters were there and talking with each other, which I think was quite challenging. After all, if we were together the angles and the talking part would be more realistic and satisfying because we actually had the person we wanted to talk with in front of us. But despite all those hardships, I think it's a fun experience and I've gained a lot from this course. (S5)

I feel that in a way, all of the four stages of dramatisation require us to solve problems, but by the end of the stages, which required us to replay and revise our script, we revised on what are we going to do, what kind of actions and intonations we should put on, all required solving problems under some circumstances. (S1)

In collaborative learning, the participants' discussion reflects the collaborative nature of problem-solving and decision-making within a group. Through group interactions, collaborative learning advocates shared problem-solving and knowledge creation (Bruffee, 1999). The LoF routine serves as a scaffold for this collaborative problem-solving process, guiding students in addressing issues they encounter during their projects. The decision-making process reflects how students critically think about the most suitable options. This demonstrates that the LoF method enhances critical and creative thinking, as highlighted in the learner-centred theory. This resonates with the social constructivist approach that encourages learners to consider

others' opinions and study fresh ideas from peers and instructors, fostering a collaborative learning environment (Johnson & Johnson, 1999).

Theme 1.10: Teamwork and Collaboration

The participants emphasised the importance of teamwork and collaboration in implementing the LoF in the DE process. They expressed their positive experiences and reflections on collaboration, indicating that teamwork is vital in achieving successful learning outcomes:

Since we're working towards the same goal, it's easy to, you know, work together to get the best result using the LoF. (S2)

Somehow, despite being away from the other members, I can still manage to contribute, and it seems like we all work together without any problems at all, even though there were a bit of shortcoming on my part back then, so that's my answer to that question. (S1)

I think from the storyboard that we did as a collaborative process, a lot of thinking was involved in terms of developing, visualising and documenting whatever things that we needed to improve or we could do better when it comes to our emotions and acting them out, I think the SB definitely helped us. (S3)

Also, teamwork, agreeing, and accepting each other's opinions. You can give your opinions, but if your opinion is not fitting or suitable, you must accept it, go to another meeting, and discuss it again until it all becomes agreeable and good to go. (S4)

Teamwork and collaboration, as evident in the drama classroom, resonate with several educational theories and concepts. Vygotsky's SCT asserts the importance of social interaction and collaborative learning. It highlights how students actively engage with their peers to construct knowledge collectively (Vygotsky, 1978). Cooperative learning theories, such as those outlined by Johnson (1989), highlight the benefits of students working together in a structured and interdependent manner. The students' descriptions of working toward a common goal and accepting each other's opinions align with the cooperative learning framework. Learner-centred approaches, as discussed by Weimer (2002), emphasise tailoring learning experiences to the needs and preferences of the students. In this case, students engage in active, collaborative learning where they have a say in the process. Besides, effective communication and cooperation are vital components of productive classroom discourse (Lewis, 2019). The successful collaboration is evident through positive classroom discourse and interactions.

Theme 2: The Applicability of LoF VT Routine

Theme 2.1: Online and Physical Interactions

The following students acknowledged the applicability of LoF in both online and physical interactions:

I believe that the Ladder of Feedback can be applicable in various communication contexts, including both online and face-to-face. (S1)

The language used in this process is generally straightforward; for instance, in online discussions, the Ladder of Feedback can be applied to written comments, discussion in virtual chats, or even in video meetings, whereas in face-to-face discussions, it can be implemented through verbal communication. (S2)

LOF consists of simple steps and practical language structures that can be applicable both in online and face-to-face discussions because people usually struggle with um having meetings or discussions online due to technical problems such as connection, and then we losing like members whenever like they're trying to talk, but I feel like with having LOF it really helps online. (S6)

I think it is better if it is applied to face-to-face discussions because even in a small group or bigger group, having LoF applied will make the discussion more emphasised and more reachable in whatever that we are reaching to the goal. (S5)

To reflect on the above responses, participants highlighted that the LoF is versatile and practical in various communication contexts, including online and face-to-face interactions. They agreed that the structured steps and explicit language used in LoF made it suitable for written comments, virtual chats, video meetings, and verbal communication. Applying LoF in both settings aids in overcoming challenges associated with online discussions, such as technical issues and connectivity problems. The approach to LoF remains consistent, whether students interact virtually or in a physical classroom. LoF's adaptability in both contexts ensures that drama students can maintain the benefits of social constructivism regardless of the mode of instruction. This is particularly relevant in the post-COVID-19 era, where institutions opted for online learning as a part of most courses, including Communication Through Drama in UiTM.

This applicability of LoF in different communication contexts aligns with the principles of social constructivism, as Vygotsky's theory emphasises the social nature of learning. It promotes collaborative learning and peer interactions, which can occur in diverse settings, reinforcing that knowledge is constructed through social interactions (Vygotsky, 1978). In the context of Collaborative Learning, the participants' discussion about the LoF's applicability in various communication contexts reflects how collaborative learning

can occur through different interaction modes, promoting shared knowledge construction and meaningful dialogue (Bruffee, 1999).

Theme 2.2: Suitability to Different Levels of Studies

The applicability of LoF in terms of its suitability to different levels of studies was discussed by students, as in the following excerpts:

We can say that for school students, this method can be applied to them, however maybe the teachers need to monitor them more closely in order for them to understand the methods correctly, because we can agree that LoF and DE are actually helping the students or children at school to actually demonstrate their creative skills, and if they can follow these methods correctly, they can actually find out themselves, that they are actually creative in creating their own solutions or discussion.” (S5)

“So, it helps a lot and it should be applied in every level of students, no matter if it's a diploma, degree or even master.” (S5)

Yeah, I think it can be helpful for all levels of the students. all right. It's just a matter of whether you want to ask them to strictly use the given structure or you want to have some flexibility to it. (S3)

Regarding whether LoF is suitable for different levels of study, it can be implied from the responses above that the students suggested a balanced approach. While university-level students can adapt and customise the learning structure, it is essential to strike a balance when applying this routine to students at various educational levels, such as schools. It may require closer teacher monitoring to ensure school students understand the method correctly. They emphasised that the LoF and DE stages could help students, even children, to demonstrate their creative skills and problem-solving abilities. These methods empower students to find innovative solutions and engage in meaningful discussions. This viewpoint supports the idea that Vygotsky's theory is adaptable and can be applied across different educational contexts and levels of students with the necessary adjustments. Active participation of students in their learning process resonates with the learner-centred approach. The LoF and DE methods encourage students to take ownership of their discussions and decisions. Applying these methods at various education levels aligns with learner-centredness (Vygotsky, 1978).

Theme 2.3: Flexibility of the teacher's role

The teacher's flexibility to adjust the instructions accordingly and monitor the process of applying the routine was emphasised. In the initial stages of discussions, teachers may actively participate. However, as stu-

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dents become more adept at using LoF within the group activities, teachers can step back and monitor from a distance:

For teachers at school, after they observe that the children can actually apply these LoF methods themselves, then maybe the teachers can slowly let their students to have their own group discussion. So, yes, that means like maybe for the first three stages of discussion the teachers can be with the students and maybe for the next discussions, the teachers can just monitor from far away, right, while doing the methods. (S5)

This student's reflection highlights the critical role of flexibility in a teacher's approach, particularly when transitioning students from guided learning to more independent, self-directed learning. By gradually reducing the teacher's direct involvement and increasing students' autonomy, the teacher facilitates a natural progression from dependence to independence. This aligns with the core ideas of social constructivist pedagogy, where learners actively build knowledge through interaction and reflection rather than passive reception. The use of VT routines in this process is essential because these routines help students internalise cognitive strategies. Initially, the teacher plays a crucial role in modelling these thinking routines, guiding students through the processes, and providing structure. However, as students master the methods and demonstrate their ability to apply them independently, the teacher can start withdrawing from direct facilitation. The gradual reduction of the teacher's presence reflects scaffolding—a concept rooted in Vygotsky's SCT. Scaffolding and individual thinking processes are key aspects of the Vygotskian theory, which PZ researchers focus on (Ritchhart et al., 2006). Teachers should promote critical thinking by creating opportunities and making students' thinking visible, asking open-ended questions and peer questioning, using strategies such as thinking routines and scaffolding (Ritchhart et al., 2006). Scaffolding allows students to work within their zone of proximal development (ZPD), where they receive just enough support to accomplish tasks they couldn't complete independently, but as they improve, the support is gradually removed. This approach is also consistent with the principles of collaborative and cooperative learning. It allows students to gradually take on more responsibility and leadership roles in their education, fostering independence and critical thinking (Johnson & Johnson, 1999).

Theme 2.4: Subjects other than drama

LoF was also seen as applicable to subjects other than drama, particularly when group work is involved. As confessed by A2-1, applying LoF would have significantly improved her group presentations on another subject, citing a specific example from a recent protocol subject related to *baju kurung* clothing presentations:

I would like to take this one subject that I took last semester which is on Protocol, so we had this presentation where we needed to discuss, we needed to present on clothing. So, when it comes to that presentation of clothing baju kurung, we really have to know the details of it, like what's accessory, what about the colour, what about the material, so by having the LoF we can really organise our presentation better, like during our discussion in giving parts, so for example, you can suggest or you can add accessories in the presentation even though it's not mentioned as baju kurung, but you know just for, like, just a suggestion and the other members being appreciative of that can also help out. LOF can also help with the questions and concerns, like, okay, what if this is not like the exact baju kurung that is proper traditionally, so having this structure would really help, not just only for this subject, I believe in every subject that involves discussion within members. (S2)

The adaptability of LoF to diverse subjects aligns with the idea that constructive learning can occur in various domains. Vygotsky's theory of social constructivism suggests that the learning process is not confined to specific subjects but can be applied across disciplines, emphasising the transferability of cognitive skills (Vygotsky, 1978). Public and private schools from the United States, the Netherlands, Sweden, Belgium, and Australia have participated in Project Zero's Visible Thinking programme, conducted in settings ranging from elementary to college levels. They investigated the applicability of employing thinking routines and documentation as teaching tools in the classroom, created a framework for achieving cultural transformation in the classroom and schools and designed tools for incorporating the arts (Ritchhart & Perkins, 2008).

Conclusion and Recommendations

Addressing RQ1, the findings demonstrated that applying the LoF routine in the DE stages significantly impacted students' learning experiences, enhancing clarity, cohesion, confidence, communication skills, critical and creative thinking, and collaborative problem-solving. As described under Theme 1, it fostered a supportive and organised environment, promoting professional communication and teamwork. The lecturer's scaffolding role was regarded crucial in guiding students and ensuring successful learning outcomes, corresponding to the VT and social constructivist principles. As reflected by the students, the LoF routine integrated into the structured DE stages effectively facilitated thoughtful and collaborative learning experiences. Addressing RQ2, the analysis of Theme 2 reflects the practicality of the VT routine in both online and physical interactions. Students noted its straightforward language and structured steps, which facilitate effective communication in various settings, aiding in overcoming online discussion challenges. The LoF is deemed versatile for different student levels, though younger students may require more guidance. It empowers creative skills and problem-solving abilities across educational contexts. Flexibility in teaching methods allows students to be independent in discussions. LoF's applicability extends to subjects beyond

drama, enhancing group presentations and collaborative efforts. This adaptability aligns with social constructivism, promoting learner-centredness and collaborative learning across diverse educational levels and subjects, enriching the learning experience.

The study's discovery has important ramifications for how drama education will develop in the future. The study indicates that learning experiences in drama courses can be improved by explicitly implementing thinking routines to create a more dynamic and student-centred environment, whether online or physically. Incorporating structured thinking routines like LoF can benefit various subject areas by promoting clear articulation of ideas, constructive peer feedback and deeper engagement with content. Besides contributing to the pedagogy of drama education, the study could add to global discussions on VT applications. While primarily conducted in a Malaysian tertiary drama classroom, the results support the broader discourse on how VT routines can develop structured, meaningful and collaborative learning. Given that VT is already widely applied in Western education systems, this study adds valuable insight into its adaptability in non-Western educational contexts, particularly in disciplines that heavily rely on creativity and student interaction.

However, the study was not without limitations, as recognised in the methodology section earlier. Due to its limited scope of one drama classroom at a university utilising a single VT routine, this study may be used as a pilot for comparable research with a broader focus. The data collected from lecturers' perspectives can be used to supplement students' points of view in future studies. Comparing the perspectives of these two key players in education would be beneficial and could result in improved drama pedagogy. Additionally, in a larger context of tertiary drama classrooms, perceived insights about interactive roles and the impact of virtual drama classrooms using the VT routines can be compared to empirical evidence from classroom observations or other appropriate qualitative and quantitative methodologies. Professional development courses, workshops and seminars for teachers can raise awareness about Project Zero, its various thinking routines and their advantages, spread the word about VT and show how it can be used in a variety of educational settings.

Author contributions

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The authors confirm that the data supporting the findings of this study are available within the article [and/or] its supplementary materials.

Conflicts of interest

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