Zoom-based delivery as an interactively accomplished learning conversation: A tentative descriptive account

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Summary

One of the barriers smashed during the COVID19 pandemic has been educator reluctance to use technology-based delivery in their educational practices. The pandemic has created opportunities for institutes and individual educators to strength test their resilience in the face of disruption and challenge (Dohaney, de Róiste, Salmon and Sutherland, 2020). In this report, we summarise key discursive features of Zoom-based lessons of educators who embraced the challenge. We show that these discourse features are typically associated with tutors' authority as educators and professionals in their vocational fields. The latter allows them to design interactive spaces where they control the discourse, often creating common ground with their learners before designing speech exchanges systems where increasingly classroom participants engage in learner-learner, learner-tutor and learner-class exchanges. Zoom-based delivery reflects typical initiation-response-feedback exchanges (Bax, 2011, Sinclair and Coulthard, 1992), sometimes within a local-allocational turn-by-turn and teacher-directed approach (Mehan, 1979; McHoul, 1978), or a more global-allocational approach where the tutor structures group and pair work (i.e. a complex response), followed by a tutor-mediated and socially- constructed feedback stage (i.e. complex feedback) (Greyling, 1995). Literacy-embedded practices are required to be deliberate and strategic – these discursive strategies, once in the candidate's awareness and available for conscious use, can be developed further and elaborated as part of capability development. In the face of limited evidence of the impact of the pandemic and the enforced move into online delivery on student success rate, we conclude that the discourse patterns of Zoom sessions can at least be viewed as meeting the requirements of socially distributed teaching and learning (Markee, 2015; Cubero and Ignacio, 2011). Following Whittingham's (2019) geo-semiotic argument for literacy development, we argue that the resources, people, objects, technology, materials and activities in an online environment can be configured to achieve outcomes for learners (Whittingham, 2019). The discursive features also reveal the relationship between the intentions of the educator and the interactive skill and moment-by-moment improvisation needed to enact pre-planned events (Twiner, Littleton, Coffin and Whitelock, 2014).

Introduction

Teaching and learning are socially distributed activities (Markee, 2015; Cubero and Ignacio, 2011): they are interactively accomplished events in a well-defined social context. Educators and learners alike were required to migrate these interactive processes into the online domain in response to the COVID19 pandemic. They were required to move into the online mode, mobilising all relevant resources, people, objects, technology, materials and activities to pursue the outcomes of interactive learning for their programmes (Whittingham, 2019). In this sense, the pandemic created opportunities for institutes and individual educators to strength test their resilience in the face of disruption and challenge (Dohaney, de Róiste, Salmon and Sutherland, 2020). In this report, we offer a tentative account of the repetitive discourse patterns we observed in three educators' interactive exchanges with their learners.

Reviewing Zoom-based delivery in three very different teaching fields (Science, ESOL and Automotive), we noted the shared objective, namely, establishing and managing online delivery as a communicative setting in which participants co-construct learning conversations that are directed at specific outcomes (Sankey, Birch and Gardiner, 2010; Ehlich, 1983). In this outline, we refer to some of the key shared discourse features and interactive exchanges we observed. We commence with prior assumptions about learner access to appropriate devices and connectivity. Following these assumptions, we present seven discursive features that we noticed in tutor-learner exchanges in Zoom.

We followed a qualitative approach: we described the key discourse features of a Zoom-supported lesson, summarising the key discourse features. We then cross-validated the summary against three more Zoom lessons. As stated earlier, the broader canvas for this report is the COVID19 pandemic which prompted tertiary institutes to move teaching into the electronic mode. Dohaney, de Róiste, Salmon and Sutherland (2020) list some of the features associated with resilient institutions and tertiary educators. This report highlights the discursive strategies that were manifested in educators' Zoom sessions, revealing recurrent discourse features associated with their practices aligned to the strategies used in F2F exchanges in classroom settings.

Prior assumptions: Adequate technology (i.e. devices) and connectivity

The main prior assumption is the participants' familiarity with setting up and accessing the link to the session. The educator has to be familiar with the process of setting up meetings and checking that all enrolled learners have been invited. A prior assumption is that all learners have technology-based access via an iPhone, android, or desktop with appropriate capacity to deal with the online demands of Zoom software. Shared access is not enough: the participants have to be familiar with Zoom as the delivery App; thus, participants have to have a high level of familiarity with the functionality of the App, how links works from calendar appointments, sharing screens, as well as muting and unmuting microphones. An important assumption to be met is that learners have to be familiar with netiquette in the context of Zoom and other online exchanges.

Assumptions checklist for tutors	
• Setting up a Zoom session (inviting learners to join and ensuring everyone is included)	
• Trouble-shooting issues of access, including frequently occurring technical hitches	
• Familiarity with software and device specifications for easy and reliable access	
• Familiarity with Zoom software and performance, especially immediate problem-solving	
• Familiarity with key functions such as sharing screens and muting/unmuting microphones.	
• Familiarity with netiquette for online interaction among classroom participants.	

Discourse Feature 1: Mediating the software and establishing shared knowledge of the functionality

At the start of the session, or at times when the functionality of the App is used, the tutor as the director of the show has to assist learners in using the software. For example, when greeting-greeting exchanges occur at the start, learners may not sense that their microphones have been muted, or when they are required to share their screens, they may need some support. The tutor has to be adequately familiar with the software to be able to guide learners' actions. Of course, some learners may have a higher level of familiarity with the software than the tutor and may then offer advice. One anticipates that these exchanges will become fewer as the tutor and the learners gain in confidence and skill in using the software. As tutors and learners become familiar with the functionality and the potential of the software, they are diversifying their roles as participants in interactively accomplishing learning conversations in this context. Whenever communication is affected, the educator offers directions, followed by learners' non-verbal reactions or prompting learners' responses.

Technology- and software-related interactions checklist	
• Familiarity with the discourse of directing learners to navigate technology-enhanced educational resources such as Moodle websites and Zoom software	
• Modifying one's role as educator and broadening learner role definitions to assist learners in navigating technology-enhanced educational resources	
• The ability to intervene when learners are unable to use the technology optimally.	
• Awareness of the relationship between understanding technology and the non-verbal actions required to navigate websites and resources.	

Discourse Feature 2: Establishing social rituals and remedying overlaps and floor snatching

Greeting-greeting sequences and small talk occurred at the start of the lessons we observed, with the tutors inquiring after learners' well-being and progress on prescribed tasks. In some sessions, these pre-lesson exchanges served a tracking purpose, with the candidates enquiring about specific tasks and task completion. These personalised exchanges captured a sense of connectedness to the group and how they were performing in relation to the shared aims of the programme. Prior to the formal session starting, the tutors would inquire about learner attendance of other sessions or task completion prior to or emerging alongside the session. Specifically, educators checked on how learners were progressing on other tasks in the programme. The general social norm of multi-party interaction that one and only one speaker is allowed to have the floor (irrespective of interactive configurations such as main discourse of the full class, group exchanges or pair work) at any given moment also applies in this social setting (McHoul, 1978; Sacks, Schegloff and Jefferson, 1974).

Establishing rules of interaction checklist	
• Establishing and maintaining social rituals such as greeting-greeting sequences and *how-are-you exchanges* at the start and end of a session	
• Establishing rapport with the group to build relationships of trust	
• Expressing concern about learner progress, reminding them of task completion across the programme	
• Maintaining the conversational rule for multi-party conversations that one party talks at any given time, with the tutor having the right to annex and allocate the floor.	
• Reminding learners of tasks, task completion and time-lines.	
• Establishing netiquette and standard procedures for conflict resolution among participants in the instructional setting.	

Discourse Feature 3: Meta-talk about the session

This feature relates to the tutor talking about the session, the topics to be discussed, the tasks to be completed, material to be reviewed, projects to be completed, deadlines, timelines, overviews of projects, and the like. Meta-talk occurs at the start and the end of all sessions but may also occur at points during the session when, say, project-relevant information, dealt with in the conversation, have relevance to project or task completion. Meta-talk occurred consistently and iteratively, as required, when candidates had to talk about the learning process or the steps in completing tasks (Markee, 2015; Bax, 2011; Sinclair and Coulthard, 1992).

Meta-talk openings, transitions and closings	
• Outlining the tasks, topics and activities for the session	
• Reviewing assignments and assessments with due dates	
• Managing topic changes at boundaries in the discourse	
• Closing a session, recapping the material and activities completed	
• Reminding learners to prepare for the next session, demarcating the work to be prepared and/or submitted	

Discourse Feature 4: Tutor-class and learner-tutor checking sequences

Checking sequences occurred in all observed lessons. At boundaries in the discourse, including the opening meta-talk exchanges at the start, and at topic switches, the tutor would prompt learners to ask questions (Bax, 2011; Sinclair and Coulthard, 1992); or at other times, learners would at an appropriate transition relevance place in the discourse ask a clarifying question (Mehan, 1979; McHoul, 1978). Thus, tutors created the opportunity by asking whether learners had questions, or they would respond to learner questions inserted into the discourse at relevant transition relevance places.

Checking sequences checklist	
• Creating opportunities in the talk for learners to ask questions, including while opening initiations and meta-talk about the session and the topic occur, or when topics change at boundaries or closings of sessions	
• Establishing a norm of interaction that learners are entitled - and are expected – to ask clarifying questions_	

Discourse Feature 5: Tutor-controlled frameworks for mediating learning material

Often to ensure the participating learners grasped tasks and knew where to find relevant resources, the tutor would systematically mediate a step-by-step approach to access a task and its relevant resources in Moodle, OneDrive or the internet (via navigating websites or using accessible links). Tutors would display and talk about the task. While talking about the task, they would show and discuss exemplars. Talk about the task and the resources (Bax, 2011, Sinclair and Coulthard, 1992) often included

- references to where these could be found;
- how to navigate the Moodle website to find the resources;
- statement-question-answer-evaluation exchanges employed to mediate learner understanding of key concepts in the task (White and Lightbown, 1984);
- visualisations in the form of graphs and tables;
- cues, clues and prompts to nudge learner understanding of key concepts;
- guided question-answer-evaluation sequences to foreground the relevant information from the class (generally after a breakout session) to be used in a class response.

Teacher mediation in navigating learning material and assessment tasks	
• Making explicit how to navigate the learning management system (LMS) (Moodle) and the software for learning conversations (Zoom)	
• Practising and directing the process of navigating learning material, tasks, assignments and assessments in the LMS.	
• Synchronising resources with discussion, practical navigation of websites, meta-talk and task outlines (Whittingham, 2019).	
• Switching between resources as required.	
• Engaging in teacher-controlled statement-question-answer-evaluation exchanges to ensure learners understand concepts, materials, tasks and assignments	
• Maintaining local-allocational turn-taking mechanisms where teacher-selects next speaker, and when allowed, learner may self-select to direct a question at the tutor (McHoul, 1978)	
• Using cues, clues and prompts to nudge learner understanding and elaborate their thinking and reasoning in a vocational field or a foundational literacy skills context (Bax, 2011, Sinclair and Coulthard, 1992; White and Lightbown, 1984)	

Discourse Feature 6: Tutor-designed speech exchanges systems for learner-learner talk

Tutors act as superordinates in the instructional context. This means that, as the more knowledgeable participants, they are in a position of authority based on their competence as vocational tutors and professionals in their vocational fields. This authority allows them to design learning tasks and manipulate the resources in instructional settings to achieve the learning outcomes of the programmes they teach (Whittingham, 2019; Greyling, 1995). In the observed lessons, the tutors

- designed group tasks, redefining their own and their learners' roles.

- structured tasks that required learners to engage in learner-learner exchanges aimed at completing tasks that would support learners' individual responses.
- structured tasks that required learners to engage
- defined their own roles as observer-facilitators who intervened when they had to assist learners to overcome barriers or clarify their approach to the problem-based task.
- assigned themselves a tracking role as they switched from group to group to monitor learner-learner exchanges.
- designed spaces that allowed learners to take more initiative.
- switched from tutor-controlled discourse to an interactive space that allowed learners to express their reasoning and thinking which allowed tutors to intervene at this complex level of thinking and reasoning in a vocational context or assist learners to elaborate their skills to engage in interaction.
- controlled the timeline of classroom activities, including the time devoted to group tasks.

Tutor-designed speech exchange systems for learner-learner talk checklist	
• Initiating talk to design opportunities for learners to produce extended talk-in-interaction with others	
• Alternating between multiple interactive configurations such as tutor-class, small-group, tutor- small-group, tutor-learner, learner-tutor, and learner-learner exchanges	
• Structuring and tracking break-out room activities	
• Modifying the role definitions of the participants to suit a speech exchange system	
• Participating as an observer-facilitator who intervenes in the learning conversation to ensure flow and overcome barriers in the learning	
• Creating opportunities for learners to engage in learning conversations to show how they apply their thinking and reasoning	
• Maintaining timelines and timing for the stages of a session	

Feature 7: Global and local designs of the Initiation-Response-Feedback exchange

We work from the assumption that all instructional discourse exchanges derive from the authority of the tutor to manipulate the Initiation-Response-Feedback exchange pattern typical of instructional discourse (Bax, 2011; Greyling, 1995; Sinclair and Coulthard, 1992; Mchoul, 1978). A high-frequency pattern we have noticed in face-to-face learning conversations was replicated in the Zoom sessions:

Stage 1: **Tight turn-by-turn control** - Teacher-controlled initiation-response-feedback exchanges occur in which the tutor mediates key concepts, reasoning or input.

Stage 2: **Switches to group or pair work** - Tutor-controlled switches to complex initiations where the learner response takes on the form of learner-learner exchanges, sometimes accessed at strategic moments by the tutor to assist with the flow of the learning conversation or overcome barriers in the learning.

Stage 3: **Mediated and socially constructed feedback on group learning** - Tutor-class interaction where learners provide feedback on their group activity in stage 2. The tutor then mediates the task with learners contributing to a complex response where learning insights and performance are mediated, refined and validated.

Global and local speech exchange systems associate with the IRF exchange checklist	
• Alternating between multiple interactive configurations such as tutor-class, small-group, tutor- small-group, tutor-learner, learner-tutor, and learner-learner exchanges	
• Designing a logical and sequential structure for different forms of learning conversation, for example, teacher-controlled talk (Stage 1), switches from local to global modes (Stage 2) and socially construct complex feedback (Stage 3).	
• Switching strategically between minimal and optimal learner initiative in learning conversations	
• Designing learner-learner talk so that learners may display their ability to think ad reason in a vocational field	

Conclusion

We concluded that Zoom-based delivery offered the same options as face-to-face interactions, allowing tutors to transform the initiation-response-feedback exchange to suit the level of teacher control of the discourse. As in f2f, tutors are able to design interactive spaces that allow learners to take more initiative and display their thinking and reasoning in vocational fields. Raising awareness of these discursive features is an important focus of literacy development and training at the institute, following the premise that teaching and learning are socially distributed actions accomplished as tutor-designed interactive events.

Positives: The Zoom platform gives participating learners visibility: there is nowhere to hide. If tasks are well-designed and learner roles are clearly specified, learner activity in the main discourse of the classroom and break-out rooms leads to optimal engagement. This reinforces the view that educators' ability to design interactive spaces that optimally mobilise all resources available to learners, as Whittingham (2019) suggests in her geo-semiotic perspective, is key and that design-based research should be a focal point in classroom research (Papanikolaou, Makri and Roussos, 2017; Majgaard and Misfeldt, 2011).

Limitations: Our approach was limited as it focused on the Zoom practices of three teachers on three occasions (9 x 2-hour sessions) viewed by one or more of the authors. The checklist incorporates repetitive patterns, cross-validating classroom observations in narrative form and actual recordings of the sessions as interactive events. This takes us to a second limitation: for reasons of efficiency and time, we did not work with transcriptions of these interactive events. However, we remained attuned to an ethno-methodological approach, remaining open to what we viewed and recorded in classroom observations (Turner, 1974). We also did not consider incongruities that educators and learners experienced in enacting their processes (Brokensha and Greyling, 2015). A last point to be made is that the interplay between effectiveness and efficiency in the online mode, specifically the impact of class sizes and the level of learner autonomy of any given cohort of learners, requires investigation. Perhaps multimodal blended approaches remain the optimal way to pursue programme outcomes (Sankey, et al., 2010)

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