

THE INTERSECTION OF DIALOGUE AND LOW TRANSACTIONAL DISTANCE: CONSIDERATIONS FOR HIGHER EDUCATION

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Abstract

The theory of transactional distance has been subjected to a variety of empirical tests and philosophical critiques. Throughout this process, the variable of dialogue has attracted much attention. Although dialogue has proven difficult to measure and define, it is widely regarded as an ideal outcome of the teacher-learner transaction. Considered from a constructivist perspective, dialogue can also be understood as an ideal outcome of classroom transactions among and between the learners themselves. Subject matter experts in post-secondary education responsible for designing, implementing and presenting classes online might consider the possibility of embracing constructivist pedagogy in order to create what Moore (1993) referred to as low transactional distance.

Keywords: transactional distance, distance education, online learning.

Introduction

In any classroom, a teacher can be challenged by the conflicting demands of the learner and the course content. Ensuring that subject matter is covered while aiding the meaning-making processes of learners requires both the ability to multi-task and a high tolerance for unpredictability. This is especially true in small to moderate-sized classes with adult learners. In this environment, learner-to-learner and learner-to-teacher dialogue can be frequent. In the manner of a traffic cop, the teacher might feel as though he or she stands at an intersection, trying to facilitate both the flow of information and the cognitive-affective processes of those encountering the material. This is difficult enough in a face-to-face setting, where social cues, like traffic lights, are present to aid the exchanges. In a Web-based classroom, the learners and the distance education (DE) teacher must negotiate space and time without familiar signals. As a result, transactions that would be straightforward in person can be complicated. Even an experienced learner – much like a seasoned driver encountering a wall of fog – might move uncertainly upon entering a Web-based DE classroom. Moreover, the teacher, stuck in the middle of what can feel like a mysterious, or perhaps chaotic environment, might be tempted to put up barricades and prevent any but a unidirectional movement of information.

To ensure that each student has the best possible journey through an online course of study, it is vital to consider more than how the range of material is to be structured and presented. How communication occurs in a course, how often those involved are able to communicate, and the quality of that communication needs to be considered. This is what Moore (1993) referred to as *transactional distance*. When dialogue is high, the transactional distance is understood to be low. Literature pertaining to transactional distance and constructivist pedagogy converge on the issue of dialogue, portraying it as a positive element in the teaching-learning transaction. It is understood, for example, that dialogue is essential in the development of critical thinking and in emancipatory education (Friere, 1972). The Socratic method of inquiry relies upon dialogue. Collaborative learning is built on a variety of communicative modes in which dialogue is key.

Nevertheless, any collective exchange of ideas is often the last thing a frantic subject matter expert (SME) will consider as he or she develops a DE course against an institution's ticking clock.

The context

In higher education, instructional designers are employed to work with SMEs in preparing their courses for blended or fully online delivery. Instructional designers will, it is assumed, possess the knowledge, skills, and ability necessary to implement dialogue-encouraging strategies as needed. That being said, not every institution has the resources to retain instructional designers. Fyle, Moseley and Hayes (2012) noted that instructional design staff is often the "first casualty" (p.53) of ongoing funding cuts. The result is that SMEs can be pressed into service during frenetic races to upload courses for deployment in both fully online and blended learning environments. Too often, these courses are little more than a form of *shovelware* (Morrison & Anglin, 2006): face-to-face courses that are inelegantly transplanted to an online setting. Rarely will this type of DE course make use of a satisfactory range of opportunities for dialogue. Another issue, as Chou and Tsai (2002) argued, is that traditional, face-to-face curriculum development does not address all the requirements of some Web-based courses of study, especially in the current milieu of rapid technological change. As a result, even those SMEs with a strong grasp of instructional design for a traditional, face-to-face classroom might struggle to transfer their pedagogical approach to a digital environment.

Rovai and Downey (2010) noted that lack of faculty support or development in the task of DE delivery is a major reason why some online programs fail. In institutions where this support is deficient, the more intrepid SME will experiment, modify, occasionally flounder, and, with time and patience, experience both success and satisfaction as a DE teacher. Others, inevitably, will come to the conclusion that online learning doesn't offer the "spontaneity" (Brookfield, 2005, p.245) of face-to-face learning. These dispirited instructors may be reacting to what they perceive to be the limited opportunities for dialogue in the classroom. Indeed, the class discussions that seem uncontrived in person must be deliberately created in an online, DE environment. Nevertheless, it could be argued that the degree of planning required to inspire discourse online involves no more manipulation than that exerted when one pushes desks in a circle in a face-to-face classroom. The instructor who calculates methods of improving dialogue in any setting is, often unwittingly, manoeuvring to decrease transactional distance.

Transactional distance

Originally, the concept of transaction as an element in the process of learning was identified by Dewey and Bentley (1949). It was defined in their effort to recreate the language of twentieth century epistemology. They suggested that the word *transaction*, as an epistemic notion, should be understood as "unfractured observation" (p.131). Further definition was as follows:

Transaction: The knowing known taken as one process in cases in which in older discussions the knowings and knowns are separated and viewed as in interaction. The knowns and the named in their turn taken as phases of a common process in cases in which otherwise they have been viewed as separated components, allotted irregular degrees of independence, and examined in the form of interactions. (Dewey & Bentley, 1949, p.196)

Although this explication is confounding at best, the idea of transaction found currency with Boyd and Apps (1980). In 1980, they wrenched the term from its original habitat and made use of it in adjective form. They described the *individual transactional mode* as any situation when an adult studies alone, most likely lacking face-to-face contact with his or her educator.

Moore (1980), enlarging upon what Boyd and Apps had articulated, suggested that the terms *independent study* and *individual transactional mode* were synonymous (p.17). Informing these independent/individual transactions were the *scholarly* and *telemathic* traditions. The former was derived from the tutorial system at Oxford and Cambridge universities, which was embraced by the U.S.A. after WW I. The scholarly model of learning was intended to foster the learner's self-discipline and study skills. The latter tradition, telemathic, means "learning at a distance" (Moore, 1980, p.18). Here, the learner is separated from the teacher and the institution not deliberately, but rather because of location and/or social circumstance. Both the universities of Wisconsin and Chicago pioneered the telemathic system to "facilitate the transactions between teacher and learner" through correspondence service, radio, telephone, and programmed texts (Moore, 1980, p.19). Referencing Wedemeyer's (1971) comparison of these two traditions, Moore noted that the telemathic method will often impose less structure and be more open to the learner's concerns and interests. One can derive from this that the telemathic method is more likely to honour the learner's individuality and welcome meaning-making through learner-teacher dialogue.

In 1989, Moore identified three interactions occurring within DE. These, he claimed, occurred between learner and content, between learner and teacher, and between learner and learner. In 1994, Hillman, Wills, and Gunawardena suggested that learner-interface might constitute another level of interaction. Anderson and Garrison (1998, p.99), working from a model originally proposed by Garrison (1989), presented a figure that incorporated six different types of interaction, all of which they believed to have relevance to the teaching-learning transaction. These elaborations represented a growing interest in developing theory that would explain the unique characteristics of DE. In 1991, Moore described transactional distance as "a psychological and communication space to be crossed, a space of potential misunderstanding between the inputs of instructor and those of the learner" (pp.2-3). The distance is of course geographical when the learner is separated from his or her teacher as the result of independent study. As noted by Rumble (1986), transactional distance can be found in all manner of classroom, including those where the learners and teacher are physically together. Moore further offered that transactional distance was dependent upon the variables of structure, autonomy, and dialogue (1993).

Structure

Notions regarding course structure have been of interest to Moore since he began writing on the topic of independent learning in 1972. Structure can be understood as a constraint that limits the learner's freedom to choose, to negotiate, to inquire, and to deviate from a prescribed program of study. It can also be understood as that which upholds standards in the presentation and evaluation of subject matter. Using Moore's examples (1980, p.21), a program delivered by traditional text-based correspondence would be considered to have high structure, whereas an open-ended tutorial would have none. Over the years, has Moore expanded his examples of those elements that would create high structure in a course, including not only methods of delivery, but also content, teaching strategies, and evaluation systems. He has included podcasts; scripted discussions with forced learner participation; content located in fields where standardization is vital, such as military and medical practice; a lock-step sequence of readings, with progression normed to the average reading speed of learners at that level; and detailed grading schemes (Moore, 2013, pp.69-70). As noted by Benson and Samarawickrema (2009),

high-structure courses leave little room for deviation by either the learner or the instructor. Therefore, structure can be understood as a constraint for both.

For those SMEs designing DE courses, it is helpful to consider in advance whether the subject matter can accommodate weaker structure in exchange for greater opportunities for dialogue. In courses where a foundational level of learning is being presented, high structure could be essential. On the other hand, in courses with particularly conceptual content, high structure could in fact weaken the ability of students to meet the course objectives. It can be surmised, then, that in a high-structure environment, reflective discourse and higher-order thinking would be unlikely learner outcomes. The learner's opportunity to articulate questions and receive responses would be blocked or altogether lost. Although high-structure might be suitable for courses with technical/instrumental subject matter, before embarking on Web-based course development, the SME should consider if his or her class might be able to accommodate more flexibility. With this flexibility, one could anticipate analysis, synthesis, and evaluation of material pertinent to the course. One could also anticipate a greater level of facilitator involvement in the day-to-day learning needs of the students.

Autonomy

The notion of learner autonomy was first identified by Humanistic psychologists, most notably Carl Rogers. Autonomous learning, according to Rogers, is the natural expression of an "inner, subjective, existential freedom" that is "irreconcilable" with behaviourism (1969, p.269). In the context of transactional distance theory, autonomy is a concept that can be understood as both a trait of the learner and as an affordance of course design. A learner with a high level of autonomy is one who has the ability to self-direct and complete a course with a minimum of prompting, dialogue, or emotional support from other classmates or the instructor. Whether or not the student would prefer to have these is beside the point. In the absence of this interaction, the autonomous learner is able to self-direct and bring tasks to completion. A course designed with high autonomy is one that incorporates much structure, and one that does not anticipate a need for much (if any) dialogue in the process of task completion. This is an important element for SMEs to consider. If a course is developed with low structure and hence low expectations of autonomous task completion, the course facilitator will need to be available to students. For example, discussion threads in a learning management system (LMS) will need to be monitored, or video conferencing sessions facilitated, or both. The decision to incorporate low structure in a course will have repercussions on the responsibilities of the facilitator, as it will require that he or she drop expectations of learner autonomy. Even those learners who might demonstrate high autonomy in other courses will likely participate in dialogue. Moreover, if a participation mark is included in the final course assessment, the learners will seek facilitator recognition. In a blended-learning environment, the lowered learner autonomy in the virtual classroom will be evident by a heightened expectation of dialogue when students and instructor meet face to face.

Dialogue

Dialogue, following Moore and Kearsley (2012) includes not only words, but also action between learner and teacher. If the learner and teacher are unable to communicate well, then the learning-teaching transaction must evolve out of the course structure. In courses where dialogue is high, the learner and teacher can rely less upon the course structure for that same transaction to occur. As noted by Shearer (2009), in the absence of structure, "the communication between the instructor and learner must increase dramatically whether distance is geographic or psychological" (p.6).

A number of factors influence dialogue. The SME who hopes to develop opportunities for multidirectional exchanges of ideas will need to consider these in tandem with or by examining the already existing course objectives. The medium will affect the type, style, and amount (Moore & Kearsley, 2012). Also influencing dialogue will be the course design, the subject matter, the personalities of teacher and learner, and the educational philosophy of those responsible for the course (Moore, 1989, p.24). Another factor to consider is the number of learners that a teacher must instruct simultaneously. In a large class, the amount of teacher-to-learner dialogue will of course be limited. One might assume that if the teacher and learner were at least somewhat extraverted and if the teacher had few learners, there would be more opportunities for dialogue. Following Moore's (1989) ideas regarding the effect of the variables of transactional distance, this would only occur if the course itself had not been developed with high structure. A teacher with a small class could eliminate the possibility of dialogue almost altogether by stressing the learner's solitary use of lecture/podcast, courseware, and text. Such a course, created with high structure, would result in low dialogue, or *high transactional distance*. The inverse of this – a learning situation where dialogue is high and structure is low – would be referred to as one of *low transactional distance* (Moore, 1989).

Whether written or spoken, synchronous or asynchronous dialogue is the conduit through which the teacher directs and redirects a learner's line of reasoning. It is also the way that experiences are shared by those with common interests or aims, such as learners in a collaborative learning endeavour. In distinguishing between interaction and dialogue, Moore (2013) noted that dialogue, being synergistic, is always constructive. In dialogue, each person involved is active and respectful, each building on the other's contributions (Moore, 1993, p.26). Lipman (1991) shared Moore's sense that dialogue differs from other communicative acts. He distinguished between conversation and dialogue, suggesting that conversation is simply an act of geniality, whereas dialogue is an act of collaboration with the aim of generating a judgement, regardless of how transitory it might be. In synthesizing the ideas of Lipman, Burbules, Bridges, Dillon, Rorty and Oakshott, Brookfield (2005) conflated the notions of discussion, conversation, and dialogue. He described the resulting communicative act as that which "incorporates reciprocity and movement, exchange and inquiry, cooperation and collaboration, formality and informality" (p.6). Later in the same text, he referred to dialogue as an essential element of democratic education (p.20). Dialogue, from Brookfield's perspective, serves not only a practical and intellectual purpose. It also serves as an agent in fostering the ideals of a free society. In reference to the process by which a learner encounters and exposes assumptions, Mezirow (2000) wrote about *reflective discourse*, which "leads toward a clearer understanding by tapping collective experience to arrive at a tentative best judgement" (pp.10-11). Examined through the lens of transactional distance, reflective discourse can be understood as dialogue in a low-structure environment.

Conundrums and critiques

Formal education – especially undergraduate and community college classes – are often developed with a high degree of structure. In large lectures, podcasts, and text-heavy online courses, the direction of dialogue is predominantly one way, moving from the instructor toward the learners. These classes would be considered to hold high transactional distance. Moore would have us understand, however, that dialogue is never completely unidirectional. In 1999, he asserted that even in programs that require no oral participation on the part of the learner (e.g., printed self-study materials, audio/audio-visual media) a *virtual* dialogue occurs between the learner and the person who organized and/or presented the materials. Although the autonomous learner (Moore, 1993) would likely find this satisfactory, problematic in courses with high transactional distance are the missed opportunities for colloquy and the challenging questions that might arise. These lost chances for discussion can have ramifications on learning quality and

learner satisfaction. This was noted by Chen and Willits (1998), who conducted a path analysis to examine the claims of transactional distance. They studied a course conducted via videoconference, wherein the learners perceived that their learning outcomes were lessened when there was infrequent discussion with the instructor. In order to illustrate the “sharing and negotiations of meaning between teacher and learner” Saba (2003) created a diagram of the *feedback loop* in distance education activity. This visual model depicted the movement that closes the psychological and communications space in a teacher-learner transaction. Unfortunately, it failed to incorporate other relationships within the learning endeavour, such as those that occur when learners make meaning through dialogue with other learners.

In their analysis of empirical studies on transactional distance, Gorsky and Caspi (2005) suggested that the longevity of transactional distance theory is at least partially attributable to its philosophical approach to dialogue. An idealized view of dialogue, they noted, has held a fundamental position in Western education since the time of Socrates, and found voice with Buber, who stressed the ideal of a reciprocal exchange between student and teacher. This collegial sentiment has been echoed by others. Considering Brookfield’s (2005) perception of dialogue as a democratizing, collaborative effort, it can be understood that dialogue between teacher and learner should be considered as but one form of the communicative transaction. Boyer (2005) called attention to the dialogue that takes place within the entire community of learners, noting that the student should be encouraged to take the lead in the dance. Dron (2007) stressed that community can be considered, to some extent, “a distinct entity from the individuals of which it is comprised” (p.34). This notion can be taken further. Dialogue, in an egalitarian educational environment, might not only occur between learner and learner or learner and teacher, but also *among* learners and teacher. The preposition “among” is used deliberately here in order to emphasize the reciprocity and movement of dialogue. To ameliorate the language used to discuss the role of dialogue in transactional distance, the etymology of *dialogue* can be usefully examined. The word derives from the Greek word *dialogos*, meaning “a conversation” (Merriam-Webster, 2013). Accepting this definition, Moore’s contention (1989) that virtual dialogue occurs in a highly structured environment seems whimsical. In a highly structured environment, the learner is actually being subjected to *monologue*, which is a speech made by one person (Merriam-Webster, 2013). Perhaps Moore, in suggesting the existence of virtual dialogue (1989) was simply creating a smokescreen term to rationalize the existence of monologue and to make it fit the variable of dialogue in his theory. Further problematizing Moore’s use of the word “dialogue,” Gorsky and Caspi (2005) noted that this variable is based on a philosophical ideal. Those dialogic transactions that occur and those we hope to occur can vary dramatically. Moreover, philosophical approaches to dialogue are biased toward an anti-empirical approach, hence making the quality and quantity of this variable in transactional distance theory difficult to study (Gorsky & Caspi, 2005).

Over the years, transactional distance has been subjected to a variety of empirical tests and theoretical challenges. Of interest in this paper is how the variable of dialogue has fared. Dron, Seiden, and Litten (2004) noted that in a course presented through blended learning, the online forums were being used only 60 % of the time, and that few of the exchanges involved “deep conversations” (p.171). This occurred although the course was designed with the explicit goal of reducing transactional distance and increasing the occurrences of dialogue. This draws into question the usefulness of considering the number of exchanges as an accurate measure of low or high transactional distance. Moreover, it draws attention to the need for specificity regarding what counts as dialogue.

In 2005, Gorsky and Caspi noted that different types of dialogue lead to different types of transactional distance that were not accounted for by Moore. They further remarked that transactional distance can be understood as tautology rather than theory, since it can be reduced

to a functional relationship: as the amount of dialogue increases, transactional distance decreases, or “As understanding increases, misunderstanding decreases” (p.8). Their critique was rooted in the concern that it is difficult, if not impossible to validate the theory because it is a quantity and its inverse that are being correlated. Along a similar trajectory, Starr-Glass (2012) stated that although Moore suggested dialogue would increase as structure decreased, structure has never been quantified. As a result, one’s assessment of a learning environment as having high or low transactional distance must be subjective. Perhaps anticipating this criticism, Moore (1991) wrote that “Transactional distance is a continuous rather than a discrete variable: a program is not distant or not distant, more distant or less distant. Transactional distance is relative, rather than absolute.” (p.3). This explanation did not dissuade Gorsky and Caspi from levelling the judgement that transactional distance theory has not been validated or supported by empirical research. The reason for this, they asserted, relates to Moore’s failure to define the theory’s constructs operationally, which in turn has led some researchers to devise their own. Ultimately, this has compromised construct validity (p.9). Gorsky and Caspi concluded that transactional distance theory, developed with ambiguous relationships between variables, fails as a scientific theory.

Constructivist pedagogy and low transactional distance

The SME tasked with developing a course for fully online or blended learning might conclude that the subject matter and anticipated knowledge of the students will be such that low structure and low expectations of autonomy are most congruent with the course objectives. Constructivist pedagogy could be a way for the SME developing such a course to increase dialogue and hence maintain low transactional distance. As a philosophy of learning, constructivism holds that the individual develops knowledge through his or her experiences. Originating from the constructivist movement of cognitive psychology, this pedagogy proposes that the learner is an active processor of information rather than a passive recipient (Rovai, 2004, p.80). This implies rejecting the transmission perspective of teaching as presented by Pratt (1998), and embracing an approach to learning that honours experience and diversity. The constructivist teacher would, under ideal circumstances, encourage reciprocal communication with the objective of helping each individual to build meaning and generate knowledge (Garrison & Archer, 1998). Constructivist pedagogy, according to Garrison (1997) is defined by social interaction. It cannot exist without dialogue.

Referring to the value of constructivist pedagogy in DE, Jonassen (1994) proposed a focus on the “...collaborative construction of knowledge through social negotiation” (p.35). This negotiation implies transactions extending outside those that the teacher has with each learner. Meaning could be developed from learner to learner, as they encounter the content and voice their interpretations. In order for this to occur, the teacher in a constructivist classroom must surrender some measure of power. Garrison and Bayton (1987) noted that the control in a course should, ideally, be shared by learners and the instructor. When one member in a transaction has too much control, authentic communication is lessened, as are opportunities to construct meaning. Moore, noting the importance of learner-to-learner dialogue, anticipated further research in this regard; he predicted a growing interest in constructivist philosophy in education, and alluded to its roots in humanistic psychology (Bernath & Vidal, 2007, p.452).

Discussing the principles of a social-constructivist classroom, Anderson and Dron (2011) observed that when what counts as knowledge is subject to discussion, the locus of control must shift from the teacher. It seems reasonable to suggest that in a class where the ideal of low-transactional distance is sought, the instructor would do best to stand back and assume a facilitative role. This requires great restraint, and might be difficult for a SME who acquired

expertise in his or her discipline through the teacher centred, lecture method of classroom instruction. Rather than transmitting encyclopaedic knowledge on the subject under study, the teacher as facilitator must focus more on process. Process role responsibilities include reflective listening, checking assumptions, addressing conflict, moving the conversation smoothly to new topics, and encouraging participation (Bens, 2005). The process role of a facilitator is a natural fit for an instructor practicing constructivist pedagogy.

Kanuka and Anderson (1999) argued that in a constructivist learning environment the content should be secondary to the learning process, and the educator should serve as a helper, partner, and guide. This corresponds to the idea of low transactional distance, where the teacher, through increasing the opportunities for dialogue, guides the learner through the apparent monolith of the content. Content can be large, imposing, and seemingly impenetrable. When encountered by a learner new to a field of study, and especially by a learner who lacks strong autonomy, content can be overwhelming. This is surmised from the number of distance learners who report that they have withdrawn from a course because of the perceived deficiencies in dialogue (Munro, 1991).

Despite its positive attributes, dialogue as a method of constructing knowledge is not without its problems. As noted earlier, dialogue is unpredictable. Its nature, as indicated by Dron, Seidel, and Litten (2004) is such that unplanned outcomes can result. "Dialogue will inevitably lead to departures from planned outcomes and result in new, unanticipated learning outcomes." (p.163). A teacher who encourages dialogue and creates low transactional distance is one who must be willing to slacken structure in the interest of building substance. That is not to say that a course with high structure necessarily lacks substance. Substance and structure can certainly coexist, but in the absence of dialogue, what counts as knowledge in the classroom will be unilaterally determined by the teacher. In the absence of dialogue, collective learner knowledge will not be utilized in the meaning-making process. Mutually-constructed meanings are especially important in a class composed of adult learners who have already acquired knowledge in the area under study. As conjectured by Saba and Shearer (1994), those with prior knowledge of the content should have the ability to increase the extent of dialogue that occurs. Of course, the instructor must first create opportunities for this knowledge to be exchanged. Kanuka and Anderson (1999), discussing the implications of constructivism for instructional practice, also remarked on the role of the learner's prior knowledge. They insisted that educators must encourage students to bring their understandings to the forefront and compare their ideas to those of their peers if new knowledge is to be constructed. Following this prescriptive, the SME developing a Web-based course should invest time considering the probable level of knowledge his or her learners will possess upon entry. If it is a foundational class where the students are unlikely to have had exposure to the subject, the development of opportunities to construct new knowledge through dialogue may not be essential, or even desirable.

Conclusion

Dron (2007), in trying to make sense of the many interpretations of transactional distance theory, stated that it "resembles a map of the Americas from the days before Columbus visited. Something is there, it is clearly quite big, but no one is quite sure of its shape." (p. 24). This is a debatable point. It could be argued that the shape was determined when Moore (1993) outlined the variables of autonomy, structure, and dialogue, when Saba (2003, 2007) diagrammed the feedback loop, and also when Gorsky and Caspi (2005) took pains to exhibit the flaws and limitations of the theory. Moreover, in surveying the literature, it becomes apparent that transactional distance doesn't look at all like a map, as Dron suggested. Rather, it resembles a scale, upon which the variables of structure, autonomy, and dialogue might be weighed. Much of

the debate concerning transactional distance seems to revolve around the units of measure, and whether such calculations are even possible.

Accepting that this literature review has accurately presented current thinking on transactional distance, it would appear that the remaining project is to translate the theory into principles and strategies. Constructivist pedagogy provides a fitting avenue for exploring how low transactional distance can be developed into DE classroom practice. In particular, the encouragement of dialogue through expert facilitation of online learning might be fruitfully explored. Addressing this need, Rovai (2000) referred to the functional roles of group members as interpreted by Benne and Sheats (1948). Drawing from their work, Rovai appears to have determined that the responsibility for building and maintaining a group rests with the facilitator, and that the person in this position can assume a variety of roles “designed to alter or to maintain the group’s way of working, to strengthen, regulate, and perpetuate the group as a group” (p.293). Problematic in this construal is the focus on roles to be performed by the facilitator, rather than roles that could be taken by students. Closer scrutiny of Benne and Sheats reveals that they in fact intended the roles to be shared by many, rather than performed by one. In fact, with some further development on how these roles could be distributed, this model could lend itself nicely to the enactment of constructivist classroom practices. In particular, work would need to be done around conceptualizing how the various group roles would be encouraged and best executed in DE. Benne and Sheats, who originally wrote on the subject of group roles in 1948, were of course not taking into account the particular needs of groups that meet online.

Brookfield (1995), writing about conversational roles in the classroom, developed a list of tasks that could be assigned to and rotated among students to optimize discussion. Although Brookfield was not addressing how these roles might play out in an online environment, his approach to discussion roles is well suited to the aims of a constructivist classroom. Compared to the notion of the functional roles of group members as outlined by Benne and Sheats (1948), it is clear that Brookfield’s concept places more focus on critique and problem posing. Brookfield’s proposed roles are oriented toward the egalitarian ideals of a constructivist classroom, as they allow for questioning of assumptions and the development of knowledge apart from that approved by the academy and/or the professor. These roles are Problem, Dilemma, or Theme Poser; Reflective Analyst; Scrounger; Devil’s Advocate; Detective: Theme Spotter, and Umpire (Brookfield, 1995, p.153). Beyond this, Brookfield also offered advice on how best to develop and sustain critical conversations among groups of students. In the interest of making transactional distance theory more useful to those who develop and present Web-based DE, the proposed group roles of Benne and Sheats, Brookfield, and others not considered herein could be analysed and interpreted for ideas regarding techniques. In the literature of transactional distance, there is a need for guidance on promising practices. Specific strategies for increasing dialogue, lowering transactional distance, and moving closer to achieving the ideals of a constructivist classroom would be valuable additions to the field. It is not enough to inspire discussion: rather, discussion needs to fulfil a number of criteria, such as being stimulating, being productive, being democratic, and having the potential to inspire critical reflection among those in the group. Moreover, the SME developing a DE course needs to consider if and how discussion will meet course objectives.

Without a capable facilitator working to ensure that opportunities for good dialogue are being maximized, classroom discussion can falter, fatigue, and fail. Clarity, which has been linked to teaching effectiveness (Anderson, 2004), can become chaos. This applies to DE instruction as much as it does to that which occurs face to face. Although Web-based learners are usually physically invisible from the teacher and other learners, the DE instructor as facilitator could implement opportunities for dialogue. Not only might this reduce learner attrition, which is problematic in Web-based DE (Carr, 2000) but it might also encourage learners to participate in

the *learner traffic* of the class. The analogies of traffic and traffic control have been chosen because they encapsulate the ideas of learners travelling singly, surrounded by others, and of being directed. To extend the metaphor, the teacher as traffic cop would ideally ensure that any learner entering the flow feels safe enough to progress in tandem with other learners, sharing the road and stopping long enough to allow others to traverse and progress. This traffic would be seen in the amount and quality of dialogue not only exchanged between the instructor and learners, but also between and among the learners themselves.

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