

# Chapter 4

## The Theory of Transactional Distance



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### Introduction

The theory of transactional distance proposed by Dr. Michael Moore (1980, 1993) is one that has stood the test of time and a host of technological innovations employed in the delivery of distance education. At the core of the theory is the notion of an educational transaction, which is bound by three distinct variables: dialogue, structure, and autonomy. Each of these variables plays a role in the effectiveness of the educational exchange and together they determine the transactional distance (TD) at any point in time for each individual. However, the educational transaction is more than a simple transfer of information or content; it is an exchange that helps build personal and/or group knowledge around a particular subject or topic of study. Thus, it is a theory that embodies the personal experience of the learner and one that is dynamic as explored by Saba and Shearer (1994, 2018).

Over the years, many studies have explored the idea of TD in distance education. These range from studies that have examined the theoretical premises of the TD theory, to ones that have explored the theory through different technologies, and those that have looked at the affective notion of feeling connected. However, many of the studies have tried to examine the idea at a class level and not at the intended

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individual level, which is key to the theory. Similarly, studies have viewed it as a cause-effect relationship instead of a systems framework that Moore envisioned, and it is important to recognize that it is not a theory that predicts the achievement of learning outcomes. This chapter discusses the evolution of the TD theory and its key variables, and explores how the theory has been refined within the online learning context.

## **The Theory of Transactional Distance: History and Evolution**

The notion of a transaction implies an exchange of some sort whether that be money, goods and services, or in the case of education, an exchange of ideas through dialogue. Combining the idea of a transaction with the notion of distance and studying it within education, we have an exchange of ideas and concepts that occur at a distance (Shearer, 2010). More specifically, it is an exchange in education that leads to the construction of knowledge. Moore's (1993) notion of TD evolved from the work of Dewey and the work by Boyd and Apps where they discuss that "[transaction] connotes the interplay among the environment, the individuals and the patterns of behaviors in a situation" (p. 22). Further, Moore's thinking around the concept evolved through rigorous observations of independent study and correspondence courses.

Central to the theory are the concepts of dialogue, structure, and autonomy and it is the interaction of these variables that determine TD at any given point in time during a course. As Moore (1980, 1993) proposed and as depicted by Saba and Shearer (1994), the interaction between dialogue and structure are primary to the theory; as dialogue increases structure decreases, thus reducing TD. These variables are further affected by one's sense of autonomy, and it is possible that a highly autonomous learner may not actually need a high level of dialogue to reduce TD. However, this is still open to debate and further research.

In Moore's (1980, 1983, 1984) early works he defined the three key variables of the theory as follows:

### ***Dialogue***

...the extent to which, in any educational programme, learner and educator are able to respond to each other. This is determined by the content or subject-matter which is studied, by the educational philosophy of the educator and learner, and by the environmental factors, the most important of which is the medium of communication (Moore, 1983, p. 157).

In this definition, the focus is on the individual and does not include group interactions and the type of dialogic exchanges one sees today in our online courses. However, Moore (1993) later adjusted this definition to include the impact of dialogic

exchanges within a group that contribute to the construction of knowledge individually and within a group. In his 1993 definition of dialog, Moore included the idea that dialog is purposeful and focused on the construction of knowledge in a trusted and valued exchange between all parties. Thus, the underlying constructs of the theory were always very learner-centered, and in some ways highlight the shift from the behavioral-cognitive pedagogical approach in DE to a more social-constructivist or learner-centered approach as discussed by Anderson and Dron (2011).

A study conducted by Shearer (2010) that explored what we mean by dialogue in online learning environments built upon the ideas of Moore (1993) and Burbules (1993) and defined dialogue as

an educational exchange that involves two or more interlocutors. It is marked by a climate of open participation, and is an interaction or series of interactions that are positive. These interactions are purposeful, constructive, and valued by each party and lead to improved understanding of the students (Shearer, 2010, p. 76).

Thus, within a dialogic exchange, whether at a distance or face-to-face, it is a trusted exchange of ideas and questions that persist in the face of disagreement, confusion, and misunderstanding, and is guided by a spirit of discovery that helps build knowledge and understanding. In this context, it is important to see dialogue as a very distinct subset of the broader spectrum of educational conversation that unfolds within distance education environments, especially in online environments.

## *Structure*

... the extent to which the objectives, implementation procedures, and evaluation procedures of a teaching programme are prepared, or can be adapted, to meet specific-objectives, implementation plans, and evaluation methods of individual students. Structure is a measure of the educational program's responsiveness to the learner's individual ideas (Moore, 1980, p. 21).

Moore (1984) further clarified structure by stating that to the extent a program “consists of pre-produced parts, at least in the form of particularized plans listing item by item the knowledge and skills to be covered by the programme” (p. 80), the program may not be responsive to the learners' idiosyncrasies and the resultant structure is high.

As we explore the notion of the structure set forth by Moore and examine most online courses, it is difficult to identify many that do not have a fairly high degree of structure. In most cases, the sequence of content, activities, and assessments are set and there is no room for negotiated differences. Even today with multiple technologies that allow for richer and deeper dialogue, if courses remain highly structured then we must ask if what we are seeing is a true dialogic exchange related to the negotiation of an individual's learning path and/or knowledge building. Or are we only observing online posts at the lower levels of Bloom's taxonomy or within the Practical Inquiry Model (PIM), as discussed by Garrison, Anderson, and Archer (2003) and Schreck (2011), wherein terms of knowledge building only triggering

and exploration type posts are witnessed, and the elements of integration and resolution are missing. Thus, we may not observe high levels of actual dialogue and it is possible in our online courses that the notion of high TD remains and the conceptual notion that as structure increases then dialogue decreases also remains.

### ***Autonomy***

Autonomy is likely the most elusive of the three variables in terms of a solid operational definition and it is the most difficult to understand and internalize within the theory. Moore (1972) built the definition of autonomy upon Carl Rogers' idea of learner autonomy that was described as a degree to which a learner has a learning plan, internally or externally finds resources for study, and evaluates for themselves on how much they learn. Moore stated

The autonomous learner turns to teachers when he needs help in formulating his problems, gathering information, judging his progress, and so on, surrendering temporarily some of his learner autonomy ... However, if he is a truly autonomous learner, he will not give up overall control of the learning processes (Moore, 1972, p. 81).

Within Moore's definition of autonomy, we see aspects of metacognition, self-directed learning, motivation, and learning control. These are elements that were further highlighted in the work by Garrison and Baynton (1987) where they reference the concepts of a learner's power, control, and support.

While autonomy and structure have not received as much attention in the research as dialogue, some current studies have reviewed the concept of autonomy and defined it as the degree to which a learner controls his/her learning process including setting goals, planning, and evaluating for knowledge acquisition. Autonomous learners have higher strategic competencies and decision-making skills to solve a problem (Hurd, Beaven, & Ortega, 2001). Therefore, autonomy is not inherent, it is personal trait which is able to evolve through practice. However, Fotiadou, Angelaki, and Mavroidis (2017) further called attention to the implication of autonomy that involves a state of interdependence between a learner and an instructor highlighting the continuous support by the instructor to the learner.

### **Critiques of the Theory**

Since the emergence of TD as an accepted theory in 1993, it has received limited critiques. It is probable that the best known is the work by Gorsky and Caspi (2005) where they argued that the concept of TD may be a tautology between dialogue and TD, and thus dialogue is the sole determinant of TD. Here it is assumed that all other variables determine the level of dialogue, which at face value has some legitimacy. However, this concept of TD may limit our view of how other variables like learner

control, and autonomy impact how a student chooses to engage within a course, and thus the resultant level of TD. For example, if a student is a highly autonomous learner s/he may not require a high level of dialogue, and yet the overall level of TD for the student is low as s/he still feels connected to the overall experience. Dron's (2005) critique also highlights one of the fundamental challenges of exploring and testing the theory, which is the ongoing fuzziness of the operational definitions. This vagueness was again highlighted in a study by Giossos, Koutsouba, Lionarakis, and Skavantzou (2009) where they discuss the lack of well-defined operational definitions around the key variables of the theory.

Further, several studies look at the notion of satisfaction and TD to determine if students feel low TD. These studies fail to acknowledge the systems view of the theory and fail to address that TD is more than just the feeling of not being isolated through physical distance. However, we should continue to examine the fundamental questions about the theory because only by constantly challenging and testing the theory can we come to a deeper understanding of the nuances that may exist in an educational exchange at a distance.

## **Continued Refinement and Quantification of the Key Variables**

If TD is the sum of the three independent and interacting variables, then we need to measure these variables and examine the impact on the dependent variable TD, and not simply measure the construct or concept of it. So, how do we better operationalize the variables and define them in such a way that they can be measured beyond inventory scales, surveys, or self-reports? While the work by Moore (1993), Burbules (1993), and Shearer (2010) have provided a good foundation for what constitutes dialogue, more needs to be done around the constructs of structure and autonomy.

If the structure in a course, as defined by Moore (1980, 1984), is predetermined by the faculty and the sequence of content, types of assessments, and learning objectives are not negotiable by individual students, then the level of the structure remains high as it is not responsive to a learner's needs. In other words, we could view a course with the high structure as one with high instructor control and low learner control. Also, it is a course where dialogue would not impact structure at the individual level. Relating this to the work of Saba and Shearer (1994) we would see structure increase exponentially and the other variables remain low.

In the examination of many of today's online courses, what we would likely observe is a high structure (predetermined objectives, sequence, assessments, etc.) and possibly moderate dialogue. But, are the educational exchanges all dialogic around knowledge building, as described by Shearer (2010), or are only a subset of the interactions dialogic? Do we observe any educational exchanges around the negotiated structure of a course at the individual level? Further, if the dialogic exchanges remain at the triggering and exploratory level, does this impact our view of dialogue?

It may also be the case that if we examine the notion of structure and dialogue through the lens of the systems model, one could hypothesize that the dialogic exchanges should be about the negotiation of the structure of the course and not necessarily around understanding the content as we view today. In other words, in our current courses what we may be witnessing is high levels of instructor control and low levels of learner control.

Thus, what is missing in our courses today that would truly allow for the notion of TD to be explained through the interaction of dialogue and structure, in the way Moore described them around the early forms of correspondence/independent study courses? It could be hypothesized that what is lacking is the negotiation through dialogue, as the course unfolds, of the individual learning path that a student or a small group of students would like to pursue. Therefore, while we may start with a predetermined sequence and outcomes, they should not be set in stone but should be dynamic and negotiable as the course develops. In this scenario, learner control is increased and impacts both the dialogic exchanges around the structure and also the dialogic exchanges around knowledge building. In this case, as these two dimensions of dialogue increase both structure and TD decrease.

This line of reasoning highlights that we may actually have two elements to the dialogic variable: one around negotiation of the learning path, and the other focused on exchanges around knowledge building. So, while the work by Shearer (2010), Burbules (1993), and Moore (1993) helps us understand what is considered as dialogue for knowledge construction, we need to determine what elements of the educational exchange would be identified as dialogue around the negotiation of the structure. Would these elements be related to what Saba and Shearer (1994) described as classroom management speech acts, and would we see these types of dialogic exchanges throughout the course or only at the beginning?

Autonomy is possibly the most difficult concept to define and operationalize for studies that are examining the theory of TD. If we conceive of autonomy as learner control and as a variable that encompasses the notions of independence, motivation, self-directed learning and a sense of one's metacognition, then it is a highly individual measure and one that is complex. It is also one that is dynamic throughout and across courses. It depends on our life experiences, prior learning, and comfort with particular topics. Thus, as a student moves through a course, they may move back and forth along a continuum of autonomy. At one moment, they may desire a high level of independence and have the ability to negotiate the learning path and activities and in the next unit or lesson wish for more structure/less learner control. Thus, the degree to which a learner is autonomous varies depending on the time, subjects, activities, and power dynamics in a course.

Further, while Moore focuses on individual factors as important for autonomy, Goel, Zhang, and Templeton (2012) point out a distinction between the nature of the perception of autonomy in different contexts (e.g., online or face-to-face) and in the general levels of autonomy that an individual may perceive. For example, individual traits that affect the preference of autonomy may be influenced by one's level of familiarity with technology (Goel et al., 2012, p. 1124). Thus, there is a need

to better operationalize the concept of autonomy so it can be measured by the key elemental characteristics, which define it.

## Conclusion

The theory of transactional distance is at once all-encompassing in our view of education at a distance. It is a theory that is broad and thus requires investigation and critical analysis to determine if it still has relevance as our technologies evolve and our pedagogical approaches change. As with all theories, it needs to be tested through different lenses. However, as discussed by Dron (2005) “transactional distance theory applies whether we like it or not and the relationship between structure and dialog is (at least in broad terms) immutable” (p. 322). But is it? Are our operational definitions of the variables still valid? As discussed above, in the broad sense, yes. However, further research is required in order to

- Better understand and operationalize structure and autonomy,
- Examine the two dimensions of dialogue around knowledge creation and negotiated learning paths (structure), and
- Explore how these revised definitions impact the theory and systems model.

By continuing to examine the key independent variables of TD, the theory will be enhanced.

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