Theory of Instructional Dialogue: A New Paradigm for Distance Education

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Introduction

Given the status of Transaction Distance Theory as a theoretical base for distance education, we reviewed (Gorsky & Caspi, 2005) published empirical studies that attempted to support or to validate the theory (Moore, 1993). We found that either data only partially supported the theory or, that if they apparently did so, the studies lacked reliability, construct validity, or both. Furthermore, we showed that the theory may be construed as tautology. We concluded:

As a historical milestone, it [transactional distance] pointed out that the essential distance in distance education is transactional, not spatial or temporal. In practical terms, as a measurable dependent variable in a theory or model, the concept has little usefulness.
(Gorsky & Caspi, 2005, p.9)

In Part 1 of this paper, we summarize findings from recently published empirical studies that attempted to support or to validate the theory and discuss their implications. Findings were similar to those found previously. In Part 2, we present an alternative paradigm for distance education instructional systems based on the assumption that instruction is dialogue. The Theory of Instructional Dialogue (Gorsky, Caspi & Chajut, 2008) offers practical and theoretical advantages. Practically, it (1) simply and accurately describes the mechanisms at play in instructional systems, (2) presents readily quantifiable operational definitions, (3) suggests hypotheses that may be evaluated empirically with high levels of reliability and validity and (4) points the way toward optimizing instructional systems. Theoretically, it subsumes all current theories of instructional design and views on-ground, distance and online instructional systems as a single discipline.

Part 1: A Critique of the Theory of Transactional Distance

One attempt to define distance education and to articulate a theory about its underlying mechanisms was made by Michael Moore. The theory evolved from basic insights regarding independent learning and learner autonomy (Moore, 1972) into a multidimensional set of interrelated definitions, propositions and constructs known as the "Theory of Transactional Distance" (Moore, 1993). In his Handbook of Distance Education, Moore (2007) cited 48 references "in which the theory has been formally acknowledged as the basis of the research" (p.97). In order to learn about the current status of the theory, we reviewed these articles. Only 33 cited references were available to us (Most unpublished doctoral theses were not accessible. However, we checked to see if articles based on the dissertation were published in journals; if so, these were reviewed). Of these 33 articles, 14 were irrelevant for our review in the sense that they carried out research within the Transactional Distance paradigm without attempting to validate the theory's basic tenets, or simply conjectured about the theory without any empirical support. We reviewed 19 studies. Results are summarized partially since fully detailed reviews of each article are far beyond the scope of this brief paper.
As found in our previous study, some articles lacked reliability and construct validity (e.g., Hopper, 2000) others achieved high levels of reliability, but lacked construct validity (e.g., Offir, Lev, Lev, Barth & Shteinbok, 2004; Saba & Shearer, 1994; Stein, Wanstreet, Calvin, Overtoom & Wheaton, 2005); some reliable and valid studies found only partial, limited support for the theory (e.g., Chen, 2001). For a theory that purports to explain and to guide research within a discipline, this lack of empirical support, we believe, is unacceptable. We previously suggested (Gorsky & Caspi, 2005) three reasons for this state of affairs.

First, Moore (1993) did not define any of the theory's constructs operationally. For example, this is his highly idealized and prescriptive definition of dialogue:

A dialogue is purposeful, constructive and valued by each party. Each party in a dialogue is a respectful and active listener; each is a contributor, and builds on the contributions of the other party or parties.... The direction of a dialogue in an educational relationship is towards the improved understanding of the student. (p.24)

This abstract, formal definition tells us how people should relate to each other in instructional contexts and what outcomes should result from dialogue. It tells us little about what real dialogues look like and how they work, or fail to work, in real situated learning environments, concrete or virtual. This led some researchers to derive operational definitions that differed meaningfully from the formal ones, thereby severely compromising construct validity. For example, Moore (1993) distinguished between dialogue, defined above, and interaction. He reserved the term "dialogue" for positive interactions only, while noting that negative or neutral interactions can occur. Several researchers failed to make this distinction. We assume this is so not because anyone failed to understand the definitions; rather, because of the inability to quantify Moore's definition of dialogue. In a similar vein, Moore (1993) defined transactional distance as: "a psychological and communications space to be crossed, a space of potential misunderstanding between the inputs of instructor and those of the learner" (p. 23). It is not "the measure of a given learner's perception of separation or distance from the instructor" (Hopper, 2000, p.14).

Second, the theory of transactional distance does not link any of its variables with learning outcomes. For a theory of instruction to be useful, we contend that its variables should relate to achievement, learner satisfaction, and attitudes toward the discipline, among others. Reducing levels of transactional distance tells us nothing about learning outcomes. Indeed, Moore (2007) cited studies that showed no relation between perceived transactional distance and learning outcomes (e.g., Hopper, 2000).

Third, Transactional Distance Theory may be reduced to the tautology: "As understanding (dialogue) increases, misunderstanding (transactional distance) decreases" (for a full derivation of this tautology, see Gorsky & Caspi, 2005).

**Part 2: Theory of Instructional Dialogue**

The goal here is to present a very brief overview of the theory which has been published (Gorsky & Caspi, 2005; Gorsky, Caspi & Chajut, 2008). We intend to show how the theory's axiom, its constructs and the relations between them, address the shortcomings we assigned to Transactional Distance Theory. One assumption, or paradigm, underlies the Theory of Instructional Dialogue: instruction is dialogue. Three propositions are derived from this assumption (Gorsky et al., 2008):

1. Every element in an instructional system is either a dialogue (as defined below) or a resource which supports dialogue.
2. Certain structural and human resources, common to all instructional systems, correlate with the type, amount and duration of dialogue that occurs, or may occur, both in-class and out.

3. Specific, situated dialogues correlate with learning outcomes.

**Proposition 1:** Every element in an instructional system is either a dialogue (intrapersonal or interpersonal) or a resource (human or structural) which supports dialogue.

**Intrapersonal dialogue mediates** learning. It is defined as the interaction between learner and subject-matter by means of given structural resources (i.e. texts, lectures, etc.). The human resource for intrapersonal dialogue is the student who utilizes structural resources as he or she sees fit in accord with personal characteristics: age, prior knowledge, goals, motivation, learning styles, and other possible variables that define the student's predisposition toward learning.

**Interpersonal dialogue facilitates** learning. It is defined as a message loop: Instructor-Student-Instructor or Student-Instructor-Student or Student A-Student B-Student A. Interpersonal dialogue may be face-to-face or mediated by communications media; it may be subject-matter-oriented or non-subject-matter-oriented. Some subject-matter oriented dialogues may converge toward predetermined answers and conclusions (instructivism) while others are divergent and open-ended (constructivism); some are friendly (conversation), some antagonistic (debate). At times, dialogues may be beneficial and serve educational purposes; at other times, they may have deleterious and anti-educational effects.

Structural resources for interpersonal dialogue include the availability of communications media and predetermined instructor availability (hrs./week). Human resources for interpersonal dialogue are the instructors and students who initiate and sustain dialogue. Especially relevant instructor characteristics are facilitation skills and accessibility (instructor response time). Especially relevant student characteristics include prior acquaintance with fellow students (Caspi & Gorsky, 2006), autonomy (Caspi & Gorsky, 2006; Moore, 1993), and perceived course difficulty (Gorsky, Caspi & Smidt, 2007).

**Proposition 2:** Certain structural and human resources, common to all instructional systems, correlate with the type, amount and duration of dialogue that occurs, or may occur, both in-class and out.

In addition to the impact of the human resources described above, to date, we have found that three structural resources account for much of the variance vis-à-vis the extent of dialogue that occurs in instructional systems:

- **Instructional strategy** (Clark, 1994, 2004; Garrison & Cleveland-Innes, 2005).
- **Instructor / Student availability** (Chen, 2001; Gorsky, Caspi & Trumper, 2004).
- **Group size** (Caspi, Gorsky & Chajut, 2003; Vrasidas & McIsaac, 1999).

**Proposition 3:** Specific, situated dialogues correlate with learning outcomes.

There is an extraordinary volume of empirical findings about the relations between instructional environments, instructional processes, and learning processes triggered by instruction, on the one hand, and learning outcomes, on the other hand. We contend that the theory can integrate these findings into a coherent whole, thereby increasing our understanding of how instructional systems achieve their goals. Indeed, this is one of our research goals.
Concluding Comments

The concept (or perhaps meta-concept) "transactional distance" proposed and developed by Moore (1993), is of historical and philosophical significance. We suggest, however, that it not be operationalized as a variable for use in a theory or model. In its place, we suggest that dialogue be quantified as the independent variable and that "learning outcomes" (e.g., achievement, learner satisfaction, and attitudes toward the discipline) be used as dependent variables. This conceptual framework, or theory, can provide a useful working model for analyzing, designing and evaluating any instructional system, be it "online" or "on-ground". For example, our definition of dialogue, both intrapersonal and interpersonal, enables us to quantify students' study/learning behaviors in terms of media choice (which resources were utilized, when and where), utilization rates, time on task, instructional outcomes and efficiencies. This can point the way toward optimizing instructional systems. Finally, we suggest that the widespread use of the theory's variables, which can be quantified reliably, will enable researchers to work from a common frame of reference with a common set of variables toward a common goal.

References


Author Summaries

Paul Gorsky is a Research Associate and faculty member in the Department of Education and Psychology at The Open University of Israel. His research is directed toward instructional theory, the role of dialogue in instructional systems, instructional technology and its effective integration. Gorsky is also Chairman of the Board of Directors of a not-for-profit organization (Science and Reasoning 2000) that offers extra-curricular, hands-on, inquiry based science enrichment programs for more than a thousand gifted and “science oriented” youth throughout Israel. He has also served the European Union as a consultant for evaluating science education proposals.

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