Recontextualizing the Student:

Analysis of the SETT Framework for Assistive Technology in Education

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THESIS

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This thesis is dedicated to my students. I have learned so much from them.

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LIST OF ABBREVIATIONS

ADHD	Attention Deficit Hyperactivity Disorder
ASD	Autism Spectrum Disorder
AT	Assistive Technology
CDA	Critical Discourse Analysis
ICF	International Classification of Functioning, Disability and Health
ICIDH	International Classification of Impairments, Disability and Handicaps
ICIDH-2	Revision of ICIDH (became ICF)
IDEA	Individuals with Disabilities in Education Act
IDIEA	Individuals with Disabilities in Education Improvement Act
IEP	Individual Education Plan
OHI	Other Health Impairment
QIAT	Quality Indicators for Assistive Technology Services
RtI	Response to Intervention
SLD	Specific Learning Disability
STS	Science and Technology Studies
UDL	Universal Design for Learning
UPIAS	Union of the Physically Impaired Against Segregation
WHO	World Health Organization

SUMMARY

The SETT Framework is used across the United States as a tool to make decisions about assistive technology for students with disabilities in K-12 education. In email list discussions, it is the model most frequently referred to by AT practitioners working the educational setting. It has also been incorporated into some state assistive technology manuals. Recently, educational blogger and doctoral student Ira David Socol proposed a re-ordering and re-labeling of the SETT Framework to better align it with an interactionist rather than a purely medical model of disability, which is identified as a social wrong. Using Fairclough's version of Bhaskar's *explanatory critique*, this study considers whether the SETT Framework poses discursive obstacles to addressing the social wrong and considers whether Socol's version provides a way past the obstacles. Fairclough's approach to critical discourse analysis is used to analyze the dialectical relationship between the most recent text describing the SETT Framework and the conjuncture of social practices it represents and reproduces: assistive technology and special education. Analysis of assumptions reveals a mixture of conceptualizations about the disabled student. Analysis of social actors and actions, using some of van Leeuwen's methods, reveals a student recontextualized as mostly passive in the SETT decision-making process. This is contrasted with Socol's version, which tries to portray the student as a decision-maker.

I. INTRODUCTION

Disability is still widely perceived as an individual problem in need of individual solutions. This dominant view has been labeled the *medical model* because it locates disability exclusively in individual pathology and seeks solutions primarily in the practice of medicine and related health fields. An alternative view defines disability as a social wrong, as a wrong located in society, and seeks to correct the wrong through political action against oppressive social structures. Although the strong version of this view, labeled the *social model*, has been critiqued as an inadequate conception of disability because it ignores the interplay between impairment and context (Shakespeare, 2006a), the location of disability in its social context is essential to an understanding of disability as a social wrong rather than a personal tragedy.

If disability can be viewed as a social wrong located in society, then an important aspect of the social wrong is semiotic. This follows from the assumption that "language (and more broadly 'semiosis', including for instance signification and communication through visual images) is an element of the social at all levels" - social structures, social practices, and social events (Fairclough, 2003, p. 24). According to social theory, all social life is constituted by social practices, "habitualised ways, tied to particular times and places, in which people apply resources (material or symbolic) to act together in the world" (Chouliaraki & Fairclough, 1999, p. 21). Social practices are in a mediating position between abstract social structures and concrete social events. Social practices are linked together in networks of practice, whose discursive element Fairclough calls an *order of discourse* (Fairclough, 2003). A significant aspect of disability as a social wrong, therefore, can be found in orders of discourse that are linked to social practices that involve disability.

Disability is embedded in many different networks of social practice. One such network of practice is special education. Within this network, or more precisely in *conjuncture* with it (Chouliaraki & Fairclough, 1999), is the practice of assistive technology (AT) in education, a legally mandated component of special education in the United States. Although as a social practice it has many non-discursive elements, there is a strong discursive element in the texts that provide conceptual models of the practice and in the district and state level policy texts that incorporate the conceptual models. The practice of assistive technology in education, therefore, may contribute to the social wrong of disability in its semiotic (discursive) aspect.

A widely used model of assistive technology in education in the United States is known as the SETT Framework. It originated with Joy Zabala, an educator now regarded as a national leader in the field of education-based assistive technology and accessible instructional materials. There are other models and processes for assistive technology but SETT dominates the conversation of AT practitioners in education (Wojcik, 2011, p. 209) and is regularly embedded in state manuals of AT in education. SETT is an acronym of four words: *Student, Environment, Task,* and *Tool*. Each word is a category of analysis for the consideration, assessment and implementation of AT in education. Since AT in education is legally defined as "any item, piece of equipment or product system… that is used to increase, maintain, or improve the functional capabilities of a child with a disability" (Individuals with Disabilities Education Improvement Act [IDIEA] of 2004), the *Student* in SETT is generally understood to be disabled.

Recently, educational blogger and doctoral student, Ira David Socol, criticized the SETT Framework as too accepting of the *medical model* of disability (Socol, 2011, January 6). With this critique, Socol implies that the SETT Framework contributes to the discursive element of the medical model. He does not provide any analysis to explain this critique; however, he does offer

an alternate model for assistive technology in education that presumably tries to change the discourse. He does this by reordering and relabeling the letters from the SETT acronym. The result is TEST: *Task, Environment, Skills,* and *Tools*. He specifically links this revised version of SETT to a social model of disability he labels *transactional* (Socol, 2011, January 6).

The goal of this study is to provide an analysis of the SETT Framework that explores Socol's critique. Critical discourse analysis (CDA) will be used to analyze whether the SETT Framework contributes to the social wrong by representing or recontextualizing the student within the discourse of the medical model of disability. I will also consider whether Socol's revision of SETT offers a way of overcoming the social wrong (Wodak & Meyer, 2009).

A.   **Methodological Approach**

The 'raw data' of this study is a text, a document on the SETT Framework. Texts, as an object of study, relate to discursive practice. Therefore, the research methodology used is a form of discourse analysis, specifically Norman Fairclough's version of critical discourse analysis. He believes that "texts have social, political, cognitive, moral and material consequences and effects, and that it is vital to understand these consequences and effects if we are to raise moral and political questions about contemporary societies" (Fairclough, 2003, p. 14).

Fairclough calls his approach a methodology rather than a method because he sees it as a theoretical process "in which methods are selected according to how the object of research (Bourdieu and Wacquant, 1992) is theoretically constructed" (Wodak & Meyer, 2009, p. 167). Bourdieu, from whom Fairclough derives some of his approach, has stated that the "logic of research" is "inseparably empirical and theoretical" (Wacquant, 1989, p. 50). This intwining of theory and the empirical is based on Bourdieu's understanding of theory as a method of operation that "guides and structures scientific practice" (Wacquant, 1989, p. 50). Chouliaraki

and Fairclough describe this as a "middle-range" theory as opposed to a "grand" theory such those offered by Habermas or Lyotard in their explanations of the late modern/postmodern world (Chouliaraki & Fairclough, 1999, p. 98). Bourdieu explains the relationship of theory and the empirical this way:

> The trick, if I may call it that, is to manage to combine immense theoretical ambition with extreme empirical modesty. The summum of the art, in social science, is, in my eyes, to be capable of engaging very high "theoretical" stakes by means of very precise and often very mundane empirical objects. We tend too easily to assume that the social or political importance of an object suffices in itself to grant importance to the discourse that deals with it. What counts, in reality, is the rigor of the construction of the object. I think that the power of a mode of thinking never manifests itself more clearly than in its capacity to constitute socially insignificant objects into scientific objects. (Wacquant, 1989, p. 51)

This study has a more modest theoretical ambition. But the relationship between theory and the object of research is what drives it. The object of research in this study is socially insignificant to anyone working outside of the practice of assistive technology in education, a small multidisciplinary subset of special education practitioners. Even within the larger field of special education, it is, in my experience, fairly unknown. Nevertheless, the overall goal of this study is to use this insignificant object to explore the much larger question of how disability is represented, construed and constructed by society. This is a question that is now shaped by several decades of theory, which now constitutes the small but growing academic field of disability studies.

The field began with the politicization of disabled people who mobilized to fight against the lived experience of marginalization, discrimination and social oppression (Barnes & Mercer, 2010). I am non-disabled. I have not experienced exclusion, disadvantage, or oppression from the perspective of disability. Furthermore, I am employed by the special education department of a public school district, first as a special education teacher and now as a district-wide assistive technology specialist/coordinator, so I am part of a system that might be critically viewed as one

of the oppressive structures of society (Clark, Dyson, & Millward, 1998; Gabel & Danforth, 2008). However, although this position means that the lived experience of disability is not directly part of this study (Clark et al., 1998, p. 683), my position has provided the reason for this study as it comes from my own experience of working with students with disabilities in the public education system, grappling with the construction of models or frameworks for the consideration and implementation of assistive technology policy in my district, and my subsequent exposure to the critical perspective in disability studies.

The study is positioned, therefore, within a critical approach to social science that sides with socially oppressed groups in the interest of emancipation instead of taking a politically neutral stance (Jørgensen & Phillips, 2002). This approach is consistent with the perspective of disability studies but it is subject to criticism from postmodern epistemologies for "assuming privileged scientific access to 'the truth'" (Chouliaraki & Fairclough, 1999, p. 33). Chouliaraki and Fairclough respond to this objection by claiming a "'modest' yet non-relativistic understanding of scientific truth as epistemic gain, where what counts is relative explanatory power and contribution to meeting needs" (1999, p. 35). Explanatory power comes from applying dialectic logic to analysis of social practice in order to "yield types of knowledge not generally achievable within those practices" (Chouliaraki & Fairclough, 1999, p. 34). The way critical analysis contributes to meeting needs is not by "'prescribing' alternative practices but rather [by] helping to clear the ground for those engaged within a social practice to seek the changes they want, by clarifying obstacles to change and possibilities for change" (Chouliaraki & Fairclough, 1999, p. 35).

B.   **Explanatory Critique Framework**

This entire study is constructed around the framework suggested by Fairclough for CDA, which is a version of Bhaskar's *explanatory critique* (Wodak & Meyer, 2009). This framework is positioned in an epistemology known as *critical realism*, which is distinct from empirical realism or positivism, the *atomistic* view that the world consists of "objects, events and regularities… as if objects had no structure or powers, and in particular, no unobservable qualities" (Sayer, 2000, p. 145). In critical realism, "the real is whatever exists, be it natural or social" and consists of the "realm of objects, their structures and powers" (Sayer, 2000, p. 145). Cause and effect is not understood as a succession of regularities (where observation of repeated occurrences is sought as proof of causation) but instead understands effects or events to be contingent on the workings of mechanisms that come from the structures of objects (Sayer, 2000). In a closed system, which the natural sciences often "artificially produce" in experimentation (Sayer, 2000, p. 216), a succession of regularities might be observed. But in an open system, which is what critical realism understands society to be, "any event is governed by simultaneously operative 'mechanisms'" whose operations are "always mediated by the operation of others" such that "no mechanism has determinate effects on events" (Chouliaraki & Fairclough, 1999, p. 19). Barnes and Mercer describe critical realism as a "'weak' form of constructionism" (Barnes & Mercer, 2010, p. 41) because it is an approach situated somewhere between essentialism and social constructionism. Sayer describes it as "moderate essentialism" in that it rejects a "strong essentialism" in which fixed essences "predetermine actualities or outcomes" and also rejects a "strong constructionism" in which "objects or referents of knowledge are nothing more than social constructions" (2000, p. 1335-1698). Fairclough's describes his version of CDA as a "'moderate' or 'contingent' form of social constructivism" (Fairclough, 2010, p. 5).

The focus of research in critical realism is the relationship between social structures, their mechanisms and social events (Sayer, 2000). Fairclough views this relationship as dialectical, which means each element is different but not discrete; in other words, each element "internalizes the others without being reducible to them" (Wodak & Meyer, 2009, p. 163). Discourse (or the broader term 'semiosis') is seen as an element of social practice, which is an "organizational entity" that mediates the relationship between structures and events (Fairclough, 2003, p. 22).

The goal of this study is to provide an explanatory critique of the SETT Framework, which is used to guide assistive technology practice in education, in order to identify any obstacles it presents to changing the construction of disability from an individual or medical model to a social model. Fairclough's explanatory critique framework for critical discourse analysis consists of four stages, each of which "draw upon relevant bodies of theory in various disciplines" to provide the basis for "defining coherent objects for critical research" (Wodak & Meyer, 2009, p. 169). The four stages were first described by Chouliarki and Fairclough (1999) and then more recently simplified by Fairclough (Fairclough, 2010; Wodak & Meyer, 2009) as follows:

Stage 1: Focus upon a social wrong, in its semiotic aspect…

Step 1: Select a research topic which relates to or points up a social wrong and which can productively be approached in a transdisciplinary way with a particular focus on dialectical relations between semiotic and other 'moments'…

Step 2: Construct objects of research for initially identified research topics by theorising them in a transdisciplinary way…

Stage 2: Identify obstacles to addressing the social wrong…

Stage 3: Consider whether the social order 'needs' the social wrong…

Stage 4: Identify possible ways past the obstacles… (Wodak & Meyer, 2009, p. 167-171)

In this introductory chapter, I have described Step 1 of Stage 1 as it relates to this study.

Step 2 of Stage 1 will be the literature review in the next chapter. As Fairclough explains:

> Constructing an object of research for [a] topic involves drawing upon relevant bodies of theory in various disciplines to go beyond and beneath the obviousness of the topic, and since the focus is on a specifically semiotic 'point of entry' into researching it, these should include theories of semiosis and discourse. There are no 'right answers' to the question of which theoretical perspectives to draw upon: it is a matter of researchers' judgments about which perspectives can provide a rich theorization as a basis for defining coherent objects for critical research which can deepen understanding of the processes at issue, their implications for human well-being and the possibilities for improving well-being. One must work in a transdisciplinary way, either in research teams which bring together specialists in relevant disciplines, or by engaging with literature in such disciplines. (Wodak & Meyer, 2009, p. 169)

Since I am not working with a transdisciplinary team, I will engage with the literature (conduct a literature review) of relevant theories. First, I will review theoretical perspectives on disability. Then, I will review theoretical perspectives that help to specify the social practices of special education and assistive technology in which the SETT Framework is embedded.

II. TRANSDISCIPLINARY THEORIZATION

A.   **<u>Theorizing Disability</u>**

The first theoretical perspective that needs elaboration is the perspective that defines the social wrong against which this study is framed. The term *social wrong* is Fairclough's. In earlier versions of his explanatory critique, he used the term *social problem* but decided to change it because the word *problem* can be too smoothly connected to the word *solution*, setting up a link that is perhaps too self-justifying (Wodak & Meyer, 2009). However, the term *social wrong* is perhaps also problematic in that it is also rooted in binary thinking by implying a simple division between right and wrong. Used this way, it can give the impression that the researcher has access to the right answer where everyone else has been wrong.

While the identification of a *social* wrong does mean that I align myself as researcher with the long tradition of human struggle against social injustice (and *struggle* implies the taking of sides), the point of naming a social wrong at the beginning of this study is to make clear the particular lens through which the object of research will be viewed. In using this lens, I am borrowing from those whose experiences and thoughts and concrete struggles against injustice have created the lens, a lens through which I have only recently begun to look. My goal is to demonstrate how this lens can be used to focus on one area of social practice—assistive technology in K-12 education.

The view that disability itself is a social wrong rather than an individual's personal burden or tragedy would be surprising to most of my colleagues in K-12 education. Its origins lie in the grass-roots efforts of disabled people to mobilize against discrimination, which has achieved wide social impact through disability rights legislation familiar to most educators in the United States, such as the Americans with Disabilities Act and the Individuals with Disabilities

in Education Act (IDEA). I believe most educators are unaware, however, of the theoretical perspectives that led to this legislation and have since taken the discussion beyond the pursuit of legal rights.

As mentioned in the introduction, the perspective that "equates 'disability' with a professionally diagnosed condition characterized primarily by functional limitations" is called the medical or individual model of disability (Barnes & Mercer, 2010). This view is perhaps most aptly schematized by the now outdated International Classification of Impairments, Disabilities, and Handicaps (ICIDH), published by the World Health Organization (WHO) in 1980. It illustrates a linear cause-effect relationship from disease ("the intrinsic pathology or disorder") to impairment ("loss or abnormality of psychological, physiological, or anatomical structure or function at organ level") to disability ("restriction or lack of ability to perform an activity in normal manner") and finally to handicap ("disadvantage due to impairment or disability that limits or prevents fulfillment of a normal role—depends on age, sex, sociocultural factors) (Verbrugge & Jette, 1994, p. 2). In this schema, impairment is linked directly to disablement without questioning society's role in the disablement process, although it recognizes the impact of sociocultural processes (Barnes & Mercer, 2010).

The social model, on the other hand, does question society's role. It is what Couser calls a "conceptual figure-ground reversal" (2009, p. 26). By specifically redefining disability as the disadvantages and restrictions society places on people with impairments, it "breaks the traditional causal link between impairment and disability" (Barnes & Mercer, 2010, p. 30). Disability is what society produces, not what is produced by impairment. Where the medical model focuses on the individual person to look for the source of disability, the social model turns the camera around and focuses on the built environment and social structures in which the person

is located. The crucial pivot point between the medical model and the social model is a strong

separation between *impairment* and *disability* (Shakespeare, 2006a; Barnes & Mercer, 2010),

which is accomplished by redefining disability as oppression rather than restricted activity

(Thomas, 2004). It is from this angle that the social wrong is found—not only in an inaccessible

built environment, but also in exclusionary social constructs, like normalcy (Davis, 2006).

As a political tool (Barnes & Mercer, 2010; Shakespeare, 2006b), the social model has

helped power the civil rights approach to the struggle against ableism, especially in the United

States. The political action it spurred led to array of legal protections for people with disabilities

in the workplace, in transportation, in accessible information and telecommunication

technologies and in the community.

Most of the major disability civil rights laws in the United States have a direct connection

to the object of research in this study, situated as it is in the conjuncture of special education and

assistive technology. The latter is historically connected to the broader allied health field of

rehabilitation. The Rehabilitation Act of 1973 provided the foundational principles of

nondiscrimination and reasonable accommodation (Cook & Polgar, 2008). Amendments to this

act in subsequent years required the provision of assistive technology within vocational

rehabilitation. The Assistive Technology Act of 1998, amended in 2004, provided financial

support to state assistive technology programs. The Education Act for All Handicapped Children

Act of 1975 mandated the field of special education in the U.S. It was replaced in 1990 by the

Individuals with Disabilities in Education Act (IDEA), which first explicitly mandated that

schools make assistive technology available and included the definition of assistive technology

devices and services from the Technology Act, PL 100-407. The requirement to consider

assistive technology for every student with an Individualized Education Plan (IEP) was included

in the 1997 amendment to IDEA and carried over in the 2004 amendment (Cook & Polgar, 2008). Finally, the Americans with Disabilities Act of 1990, amended in 2008, influenced both assistive technology and education through its broad requirements of accessibility and accommodation (Cook & Polgar, 2008).

But, in fields like special education, creating legal protections for people with disabilities has done little to shift the theoretical understanding of disability away from the medical model. The legal requirements seem instead to reinforce it. The concept of disability is not questioned in special education because its definition is supplied by a complex checklist of qualification categories that use the terms *impairment* and *disability* interchangeably, as in *specific learning disability* (SLD) or *other health impairment* (OHI), to name two categories used in Illinois. Qualification under SLD relies heavily on comparing individual 'deficiencies' to group norms through individual psychological testing or according to the protocols of the Response to Intervention (RtI) approach. Qualification under OHI is based medically diagnosed conditions such as *autism spectrum disorder* (ASD) or *attention deficit hyperactivity disorder* (ADHD). Both categories equate individual impairment and disability. Disability is thus located exclusively in the individual, who must meet qualification requirements before social resources can be applied to address the 'problem'. Of course, legal protection is a necessary good and finite resources require prioritization strategies (Bickenbach, 2009) but our understanding of disability needs to go beyond civil rights.

Therefore, a deeper look at the theoretical constructs of disability is needed. Because sociological concepts underpin Fairclough's version of CDA (Chouliaraki & Fairclough, 1999), I will review some of the sociological perspectives on disability next.

1. **<u>Sociological approaches to disability</u>**

Mike Oliver captured the activist essence of the social model he helped pioneer when he recently said:

> I wish people would stop talking about it. The social model is not some kind of conceptual device to debate. The social model is a tool that we should use to try and produce changes in the world, changes in what we do. (Allan & Slee, 2008, p. 148)

However, Vic Finkelstein, co-founder of the Union of the Physically Impaired Against Segregation (UPIAS), the British organization credited with the development of the strong social model, argued that "the social model does not explain what disability is. For an explanation we would need a social theory of disability" (2001, p. 10).

Two general approaches to a social theory of disability were identified by Carol Thomas (2004). One builds on the social model. The other is rooted medical sociology, typically called "the sociology of chronic illness and disability" in the UK (Thomas, 2004, p. 574). Thomas aligns herself with the social model approach derived from Finkelstein's emphasis on the "material aspects of social relations," a social theory Thomas calls a "political economy of disability" (2004, p. 572). Based on her view that the UPIAS social model really meant to completely redefine disability as oppression (2004, p. 578), she argues that "what has been lost is an understanding that disability only comes into play when the restrictions of activity experienced by people with impairments are socially imposed, that is, when they are wholly social in origin" (2004, p. 580). Thomas thus maintains a strong distinction between impairment (body) and disability (society).

Medical sociology has a longer history, ranging from Parson's efforts to examine the sick role in sociological terms, to examinations of the social construction of medical labels and mental illness, Goffman's examination of stigma, and phenomenological approaches focused on the personal experience of chronic illness and impairment (Barnes & Mercer, 2010; Thomas,

2007). Of particular significance to this study is the focus on power and social conflict at the micro level of patient/professional interactions. These studies show how the medical field controls the definition of illness and how medical professionals use this power to "legitimate the hierarchical character of lay-professional encounters" (Barnes & Mercer, 2010, p. 57). Although there has been a shift from 'patient-professional' to 'consumer-provider' through the involvement of allied health professionals, which includes the field of assistive technology providers, Barnes and Mercer suggest that these professionals "replicated many aspects of medicalization" because of the "failure to diminish the subordination of the 'client' to professional expertise—however much it is repackaged in terms of individual empowerment" (2010, p. 62-63).

More recent postmodern or poststructural approaches have taken issue with the neglect of the body in the division between impairment and disability so evident in the strong social model. The reduction of impairment to the biological was explored by Hughes and Paterson (1997). Shakespeare and Watson criticized the social model from a poststructural perspective in 2001, arguing that "impairment and disability are not dichotomous" and that "people are disabled both by social barriers and by their bodies" because, from the poststructural view of shifting relationships, "it is difficult to determine where impairment ends and disability starts" (quoted in Thomas, 2004, p. 573-574). Thus, in their view, disability is a "complex dialectic of biological, psychological, cultural and socio-political factors, which cannot be extricated except with imprecision" (quoted in Thomas, 2004, p. 574). Thomas acknowledges that impairments and chronic illness do cause some restriction of activity, which she calls *impairment effects* (Thomas, 2007), but criticizes Shakespeare and Watson for failing to define *disability* in terms of oppression, which in her view waters down the social relational character of the social model.

Shakespeare argued that Thomas made a false distinction between social oppression and social barriers and rejected her characterization of his position. He states:

> Then, as now, I define disability as the outcome of the interaction between individual and contextual factors - which includes impairment, personality, individual attitudes, environment, policy, and culture. Rather than reserving the word disability for 'impairment effects' or 'oppression' or 'barriers', I would rather use the term broadly to describe the whole interplay of different factors which make up the experience of people with impairments… I am happy to accept that both social barriers and oppression play a part in generating disability for many disabled people in many contexts. But I cannot accept that disability should be defined as either social barriers or oppression. (Shakespeare, 2006a, p. 58)

Interestingly, Shakespeare explicitly grounded his argument in critical realism rather than poststructuralism, a position previously advocated by Simon Williams (1999). Barnes and Mercer identify the "resurgence" of critical realism as a response to "poststructuralism's scant regard for individual agency and the lived experience of the body/impairment" (2010, p. 68). Williams (1999) had argued that critical realism could help create a bridge between several dichotomies: biology/society, structure/agency, and body/self. Using the terminology of critical realism, he described disability as an *emergent property* located in the *interplay* between "the biological reality of physiological impairments, structural conditioning (i.e. enablements/constraints), and socio-cultural interaction/elaboration" (Williams, 1999, p. 810). He aimed for a "reassertion of real bodies and real selves as an 'antidote' to the playful deconstructions of postmodernism" (Williams, 1999, p. 810) and defended the ICIDH model. Shakespeare also used the word *interplay* when he noted that "limitations are always experienced as an interplay of impairment with particular contexts and environments" but maintained a somewhat stronger stance toward the social cause of disability than Williams, arguing that "people are disabled by society and by their bodies" (2006a, p. 56). Shakespeare defended the International Classification of Functioning, Disability and Health (ICF) model (2006a).

The differences between Williams and Shakespeare are perhaps paralleled by the differences between WHO's 1980 ICIDH model and the 2001 ICF model. Since the object of this study, the SETT Framework, is a model that involves students with disabilities, it seems important to look more closely at the WHO models used to portray disability because they reveal how sociological theory can shape the schema. A significant amount of (sometimes contested) work has gone into the construction and evolution of the WHO models. I will later note the absence of any reference to this work in models of assistive technology in education.

Revisions to the ICIDH began in 1993 and were finalized in 2001 as the International Classification of Functioning, Disability and Health (ICF) (World Health Organization, 2002). Bickenbach, Chatterji, Badley and Ustun, writing just before the ICF was finalized (it was called the ICIDH-2 at that point), described the shift this way:

> Many changes, minor and major, have been made to the ICIDH… Importantly, the criticism of the model in the original ICIDH have been taken to heart and an invigorated, and clearer, statement of the background model is presented in the new draft. The ICIDH-2 [ICF] embodies what is now termed the 'biopsychosocial' model, a synthesis of the medical and social approaches to disablement. Each dimension of disablement is conceptualized as an interaction between intrinsic features of the individual and that person's social and physical environment. To ensure that the insights of the social approach to disablement are captured, the draft includes a fourth component, a listing of environmental factors that can be used, in conjunction with the other classifications or separately, to identify the determinants of disablement at the body, person or person-in-context level of human functioning. Disablement is now understood as an identifiable variation of human functioning. (1999, p. 1183-1184)

The overlap between medical sociology and disability studies is evident in the ICF, which explicitly tries to combine the social model and the medical model in an approach labeled the biopsychosocial model (World Health Organization, 2002, p. 9). It was positioned as a universal classification that can be applied to all people, not just those with chronic illness or disability (World Health Organization, 2002, p. 14). The name change was reflective of a desire to move away from a separate categorization of disability in order to acknowledge "every human being

can experience a decrement in health and thereby experience some disability" (World Health Organization, 2002, p. 3). While this position has some resonance with postmodern forms of disability theory, which view disability simply as human variation, it did not go uncriticized. Imrie argued that the ICF could have the potential to create a division between the universal and the particular that might undermine efforts to meet the "needs or demands of people with particular types of impairment" (2004, p. 300). Imrie also criticized the biopsychosocial theory on which the ICF is based as underdeveloped and perhaps too allied with the structural functionalism associated with Parsons (2004).

Despite these criticisms, Shakespeare agreed with the approach taken by the ICF, saying that it "does seem to me a sensible and practical way of understanding the complexity of disability" (2006a, p. 59). The World Report on Disability, in which Shakespeare participated, concurred: "The ICF… understands functioning and disability as a dynamic interaction between health conditions and contextual factors… [and] represents a workable compromise between medical and social models" (World Health Organization, 2011, p. 4). However, in a move that resonates with the social model's distinction between impairment and disability, the report noted, "Defining disability as an interaction means that 'disability' is not an attribute of the person" (World Health Organization, 2011, p. 4) and called for a new emphasis on environmental factors.

It is interesting to note that Williams' (1999) and Shakespeare's (2006a) theorization of disability shares the same epistemological assumptions as Fairclough's *explanatory critique* methodology, namely, critical realism (Chouliaraki & Fairclough, 1999). This means that, in terms of the epistemology used to theorize the social wrong against which this study is framed, there is probably greatest consonance between Shakespeare's views (2006a) and Fairclough's methodology (Chouliaraki & Faircough, 1999). However, in constructing the social wrong in the

first paragraph of the introduction to this study, I am taking a position more closely aligned to the

'social oppression paradigm' that Carol Thomas advocates. In a 2008 response to Shakespeare's

book, Thomas noted that his position caused "deep disquiet" among disability activists and

scholars because it abandoned what she calls the 'social oppression paradigm' in contrast with

the 'social deviance paradigm' of medical sociology (Thomas, 2007, p. 181). Her view is that

> …any sociology of disability should make use of theories that engage both with social structure (order) and social agency (action), and should therefore accommodate analyses of the social relations and social forces that construct, produce, institutionalise, enact and perform disability and disablism. (Thomas, 2007, p. 181-182)

Analysis of text, in Fairclough's view (1992), does engage with both social structure and

social agency. This study is not focused on the lived experience of disability or the interplay of

factors experienced by a particular person or particular category of impairment. It focuses

specifically on the *semiotic aspect of the social wrong*, which implicates social relations of

power and dominance (Fairclough, 2010, p. 9).

2. **Semiotic aspect of disability**

Fairclough uses the term *semiosis* because sign systems consist of more than just

text, whether written or spoken. Semiosis includes visual image and body language (Wodak &

Meyer, 2009) although in the context of this study, the semiotic aspect is only written text

because the object of research is a published document.

It is beyond the scope of this paper to review the many angles of research that connect

semiotics to disability, a field developed extensively in disability theory that examines the

cultural/representational and identity/performative aspects of disability. Carol Thomas

summarized this approach as "the examination of cultural narrativisations of both normal and

abnormal bodies, and explorations of the effects that living with the strong presence of these

discourses has on disabled people's subjectivities and identities" (2007, p. 132). This approach is

generally based on the epistemological assumptions of social constructionism and is heavily

influenced by the discourse theories of Foucault, whose thought is applied to show how

disability is defined by the regime of medical knowledge (Barnes & Mercer, 2010), how

disability is defined by statistical knowledge and the concept of the norm (Davis, 2006), and how

the discourses of ability/disability are rooted in ideological power struggles. The *disabled* can be

understood as a cultural minority whose members are struggling against hegemonic negative

representations of disabled people as victims of a personal tragedy, as people to be pitied, or as

one-dimensional heroes who overcome major personal obstacles. This angle is developed in

studies that examine the representation of disability in the mass media (Haller, 2010),

explorations of freakery and the act of staring (Garland-Thomson, 1996, 2009), disability

memoirs (Couser, 2009), disability in theater and performance art (Sandahl & Auslander, 2005),

and disability aesthetics (Davidson, 2008). Its goal is to reverse the negative discourse about

disability that arises from the ideological assumptions of ableism, represented by phrases such

as: "Ability is the ideological baseline by which humanness is determined. The lesser the ability,

the lesser the human being" or "Ability is the supreme indicator of value when judging human

actions, conditions, thoughts, goals, intentions, and desires" (Siebers, 2008, p. 10).

The important point of this approach in terms of the present study is that the medical

model of disability has a much broader cultural impact than is implied by the sociological

discourses reviewed in the previous section. The medical model is, in this sense, symbolic of the

ideological struggle between the predominantly ableist *orders of discourse* (Fairclough, 1992;

Chouliaraki & Fairclough, 1999) that constitute beliefs (often unconscious) about what it means

to be human and the minority orders of discourse that consciously and critically question the

ableist assumptions of the dominant discourse.

What does this mean when examining a single text? Fairclough rejects the view that ideology can be located in a discursive event (i.e. a text) because "ideological processes appertain to discourses as whole social events - they are processes between people - not to the texts which are produced, distributed and interpreted as moments of such texts" (2010, p. 57). At the same time, texts do have causal effects on both the semiotic and the non-semiotic aspects of social life and this is how they can work ideologically (Fairclough, 2010). As the discursive aspect of events, texts are part of the action (talking or writing is a way of acting), represent aspects of the world, and identify social actors, thus contributing to the "constitution of social and personal identities" (Fairclough, 2010, p. 75). As representations of social practice, texts draw on and potentially transform social practices, often recontextualizing them through substitutions, deletions, rearrangements, and additions (van Leeuwen, 2008).

The SETT Framework, because it is a text about students with disabilities, represents and recontextualizes disabled students. It is not a text produced by the mass media for general consumption. It is not an aesthetic representation of the human body. It is not a text that comes from the humanities. And yet, it is a text and, therefore, can be critically analyzed for its representational power in relation to the social practices of which it is a part. Does it contribute to the discourse symbolized by the medical model, a discourse rooted in ableist assumptions, or does it resist those assumptions and contribute to a discourse that creates space for a "theory of complex embodiment that values disability as a form of human variation" (Siebers, 2008, p. 25)?

B.   **Specifying the Social Practices**

1.   **Introduction**

Chouliaraki and Fairclough (1999) identified *analysis of the conjuncture* as the first step of analysis to be conducted in stage two of their explanatory critique framework.

Conjunctures are "relatively durable assemblies of people, materials, technologies and therefore practices (in their aspect as relative permanencies) around specific social projects in the widest sense of the term" (Chouliaraki & Fairclough, 1999, p. 22). Conjunctures "can be more or less complex in terms of the number and range of practices they link together, more or less extended in time and in social space" and "can be identified at different levels of specificity" (Chouliaraki & Fairclough, 1999, p. 61). Analysis of the conjuncture, which Chouliaraki and Fairclough (1999) suggest could be a productive way to operationalize a focus on social practices, is the "specification of [social] practices which the discourse in focus is located within" (Chouliaraki & Fairclough, 1999, p. 61).

Social practices are defined as "habitualised ways, tied to particular times and places, in which people apply resources (material or symbolic) to act together in the world" and are understood to be a "point of connection between abstract structures… and concrete events—between 'society' and people living their lives" (Chouliaraki & Fairclough, 1999, p. 21). Fairclough uses the concept of social practices to link events and structures because the relationship between them is not one of simple cause and effect. In other words, social events are not directly caused by social structure but rather are mediated by social practices, which "can be thought of as ways of controlling the selection of certain structural possibilities and the exclusion of others, and the retention of these selections over time" (Fairclough, 2003, p. 23). In Fairclough's view, there is a dialectic relationship between structures and events that allows for an oscillation between structure and agency, the classic polarity in sociology (2003).

In simple terms, assistive technology in education can be understood as a conjuncture of the social practices of special education and assistive technology. This is a simplified view because special education is in a complex conjuncture with the practices of general education

and assistive technology is in conjuncture with several different practices, including

rehabilitation. Both of these will be explored individually. It should be noted, though, that

Chouliaraki and Fairclough, following the work of Laclau and Mouffe, maintain the

poststructural view that elements of the social are in shifting relationships and can be

transformed as they are brought into new combinations with each other (Chouliaraki &

Fairclough, 1999). From this perspective, although the practices were legally brought together in

1990 (Cook & Polgar, 2008), the conjuncture of assistive technology and special education are

not necessarily in a permanent relationship. Recently, other conjunctures have been explored,

such as assistive technology and educational technology (Marino, Sameshima, & Beecher, 2009)

or assistive technology and universal design (Michael & Trezek, 2006). However, for the

purposes of this analysis, I will limit the conjuncture to special education and assistive

technology because they were the primary social practices within which the SETT document was

first produced in 1995 and continue to be the primary social practices within which the SETT

Framework is currently used.

Fairclough describes social practices as an articulation of the following elements: action

and interaction, social relations, persons, the material world, and discourse (Fairclough, 2003).

However, social practices have three main characteristics, according to Chouliaraki and

Fairclough (1999): 1) They are forms of production in social life; 2) they are located in a

network of relationships to other practices; 3) they always involve a *reflexive* dimension because

people always make representations of what they do.

Given the complexity of elements that constitute a social practice, elements that cannot

be 'captured' in words, it is impossible to adequately specify the practices of special education

and assistive technology. I could try to describe the practices but a description is only part of the

reflexive dimension. It is a representation, a recontextualization, part of discourse itself. In fact, this whole study does not stand outside of discourse but also produces it (Fairclough, 2010, p. 8). Therefore, instead of trying to provide a 'neutral' description of the practices of special education and assistive technology, I will review the literature that theorizes these practices from the critical paradigm identified as the lens of this study, the social model of disability.

2. **Assistive technology in education as a social practice**

a. **Definitions**

Assistive technology is arguably as old as human history. Cook and Polgar use the imaginative examples of the walking stick/cane and animal horn/hearing aid to make this point (2008). The term *assistive technology* is newer, of course, but somewhat ill-defined. In one textbook, rehabilitation technology and assistive technology are either treated as synonyms or as separate terms, as when rehabilitation technology is used to describe the technology of acute care and assistive technology is used to describe functional devices and services used in daily life (Bronzino, 2000). Cook and Polgar, in their widely used textbook, define assistive technology as that which "helps an individual to carry out a functional activity" in contradistinction to rehabilitative and educational technology, which is "usually used as one modality in an overall education or rehabilitation plan" (2008, p. 5). This reference to *functional* activity adheres to the legal definition, as stated in the Assistive Technology Act of 1998: "Any item, piece of equipment or product system whether acquired commercially off the shelf, modified, or customized that is used to increase, maintain or improve functional capabilities of individuals with disabilities" (as quoted in Cook & Polgar, 2008, p. 5).

This definition was imported in to special education law in 1990 (Cook & Polgar, 2008, p. 13) and was reincorporated into IDEIA 2004 as follows:

300.5 Assistive technology device. Assistive technology means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability. The term does not include a medical device that is surgically implanted, or the replacement of such a device. (The Individuals with Disabilities Education Improvement Act of 2004)

Assistive technology is not the only type of technology in education. Blackhurst identified six different uses of the word *technology* in relation to education: the technology of teaching (meaning the art and method), instructional technology (meaning tools designed to instruct or increase skill), assistive technology, medical technology (present in the nurse's office or, more rarely, to meet the medical needs of individual students), technological productivity tools (such as word processors and spreadsheets), and information technology (2005b). Aside from certain types of medical technology, assistive technology is the only one that has traditionally been individualized because, by definition, it exists to address the functional (i.e. impairment-related) capabilities of students with disabilities.

Given its individualized nature, it was not sufficient to require assistive technology without also requiring the services needed to select and implement it. Thus, the second part of the definition of assistive technology in IDEIA 2004 describes the required services and, in the many verbs used in each line (i.e. *evaluation, purchasing, selecting, coordinating, training*), specifies the social practices of assistive technology:

300.6 Assistive technology service. Assistive technology service means any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device. The term includes—
(a) The evaluation of the needs of a child with a disability, including a functional evaluation of the child in the child's customary environment;
(b) Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by children with disabilities;
(c) Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing assistive technology devices;
(d) Coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;

(e) Training or technical assistance for a child with a disability or, if appropriate, that child's family; and

(f) Training or technical assistance for professionals (including individuals providing education or rehabilitation services), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of that child. (The Individuals with Disabilities Education Improvement Act of 2004)

Other sections of the law make clear that the provision of assistive technology in education is embedded in the special education process of developing an Individualized Education Plan (IEP). Secondary documents have been developed to help practitioners and special education teachers understand this process (for example, Castellani, et al., 2005). However, although the legal definition is important, practitioners have not found it adequate in daily work (Wojcik, 2011). Therefore, since the mandate to provide assistive technology in educational settings was enacted in 1990, a significant amount of effort has gone into defining and modeling the practice.

b.   **Models of assistive technology**

Edyburn reviewed twelve models and processes of assistive technology (AT), grouping them into three categories (2001). Lenker and Paquet reviewed six models applicable to AT outcomes and practice, and mentioned four others (2003). Watts, O'Brien and Wojcik reviewed four models of AT used in education (2004). There is some overlap between the three reviews, so the total number of models is 21.

Many of the models are clustered around the same year as the SETT Framework. Many of the models are not specific to AT practice in education but are meant to be used across the lifespan. Some of the models, such as Melichar and Blackhurst's Unifying Functional Model and Edyburn's Technology Integration Process, are not specific to assistive technology but include it. Others apply existing theoretical frameworks to AT.

Two of the models directly related to AT in education, *Education Tech Points* and *Has Technology Been Considered*, aim to integrate AT into the existing processes of special education. They are rather like flowcharts that spell out where in the given process assistive technology should be considered and implemented. This was needed in the 1990's because IEP teams were familiar with the IEP process but the mandate to consider assistive technology for students was relatively new, so teams needed professional development tools to help them fulfill the mandate.

I have listed the models in TABLE I by the earliest date associated with them. Three of the AT models from the same period are frameworks rather than flowcharts and have remarkably similar components: Zabala's SETT Framework, Cook and Hussey's HAAT model, and Scherer's *Matching Person to Technology* (MPT) model. The SETT components are *Student*, *Environment*, *Task*, and *Tool*. The HAAT model components are *Human*, *Activity*, and *Assistive Technology* inside *Context*. The MPT model components are *Milieu* (environmental factors), *Person* (individual characteristics) and *Technology* (AT device characteristics). TABLE II shows the similarities between each of these three frameworks.

TABLE I

MODELS OF ASSISTIVE TECHNOLOGY

Name	Author(s)	Date
1. ABC Model	Lewis	1993
2. Unifying Functional Model	Melichar & Blackhurst	1993
3. Tech Points	Langton & Hughes	1994
4. SETT Framework	Zabala	1995
5. Education Tech Points	Bowser & Reed	1995
6. Human, Activity, and Assistive Technology Model	Cook & Hussey	1995
7. Lifespace Access Profile	Williams, Stemach, Wolfe & Stanger	1995
8. Wile's Model of Human Performance Technology	Wile	1996
9. Has Technology Been Considered	Chambers	1997
10. Technology Integration Process	Edyburn	1998
11. Matching Person to Technology	Scherer	1998
12. Gitlin's Career Model	Gitlin	1998
13. King's Adaptation of Baker's Basic Ergonomic Equation	King	1999
14. A3 Model	Smith, Schwanke & Edyburn	1999
15. AT CoPlanner Model	Haines, Robertson, Sanch et al.	2000
16. Stages	Pugliese	2000
17. Quality Indicators for Assistive Technology Services	QIAT Consortium	2000
18. Rodger's Perceived Attitributes Theory (1995) applied to AT	Reimer-Reiss & Wacker	2000
19. ICF-AT Model	Lenker & Jutai	2002
20. Multiattribute Utility Theory applied to AT	Smith	2002
21. Roelands' Model of AT Use	Roelands, et al.	2002

Note: List of models collected from Edyburn, 2001; Lenker and Paquet, 2003; Watts, O'Brien & Wojcik, 2004

TABLE II

COMPARISON OF THREE SIMILAR MODELS OF ASSISTIVE TECHNOLOGY

Model	Who	Where	What	How
SETT	Student	Environment	Task	Tool
HAAT	Human	Context	Activity	Assistive Technology
MPT	Person	Milieu		Technology

Only Zabala's SETT Framework is widely used in the educational setting (Wojcik, 2011). Cook and Hussey's HAAT model and Scherer's MPT model are generally associated with clinical and adult service settings. I have not found any information to indicate whether it was an historical accident that the two most similar models, SETT and HAAT, were developed around the same time or whether one borrowed from the other. They seem to have been developed in different settings (Zabala working in the Texas school system and Cook on the faculty of rehabilitation medicine at the University of Alberta, Canada).

c. **Assistive technology and the International Classification of Functioning, Disability, and Health**

Only one of the models listed in TABLE I, Lenker and Jutai's ICF-AT model, explicitly tries to integrate assistive technology with the 2001 ICF Framework. As discussed previously, the ICF is significant from the point of view of the social wrong because it attempts to account for the disabling effects of the social environment, the variable that reflects the social model of disability. However, as early as 1993, environment was included as a

component in Melichar and Blackhurst's *Unifying Functional Model*. This model preceded the SETT Framework by several years and may have influenced it. It is therefore worth examining.

The *Unifying Functional Model* is a fairly involved diagram with arrows leading from one element to another, not unlike the ICF diagram (Blackhurst, 2005a). The *Environment and Context* element is located at the bottom of the diagram and simply includes three setting categories: home, school, and community. Each category contains a bulleted list of different settings, such as (in the school category) classrooms, library, stairs, entrances, and lavatories. This element, according to the arrow symbols, has a direct impact on the element of *Functional Demands* (dress, eat, groom, read, see, etc.) and influences the elements of *External Supports* (special education, general education, physical therapy, etc.) and *Personal Perceptions* (needs, problems, alternatives, perceived costs, perceived benefits, consequences). There are other categories in the diagram related to the person (*Personal Resources*, *Personal Changes*, *Explore Options*). At the top of the diagram is *Evaluation and Feedback*. Most of the arrows lead upwards toward this category. Only one small arrow descends from the top down to the *Environment and Context* category at the bottom.

As a whole, the diagram seems to take the environment as given and the functional activities (tasks) as 'demanded' by the environment. Blackhurst says this explicitly in the accompanying text: "The environment and context place functional demands on all of us" (2005a, p. 22). He also notes that the "central focus [of the model] is the individual and the decisions that are involved in assisting that individual in responding to environmental demands" (Blackhurst, 2005a, p. 24). Nothing in the accompanying text suggests that the environment, instead of the individual's response to it, might need to be changed.

This is in contrast with the ICF diagram, which tries to show the person's relationship to the environmental factors in more dynamic terms by using arrows that flow both ways at all times. The diagram is perhaps not perfect but it is a deliberate attempt to integrate the social model with the medical model. As the accompanying text notes:

> Disability is a complex phenomena that is both a problem at the level of a person's body, and a complex and primarily social phenomena. Disability is always an interaction between features of the person and features of the overall context in which the person lives… (World Health Organization, 2002, p. 9)

Although Scherer, Craddock, and Mackeogh considered the ICF and concluded that "the ICF itself cannot be used to analyse the process of successful matching of person and ATD or the complex set of influences on the outcomes of the match" (2011, p. 815-816), others have attempted to integrate the ICF into the practice of assistive technology. Since Lenker and Jutai developed their ICF-AT model in 2002 (Lenker & Paquet, 2003), a detailed model based on the ICF was developed and published in a two-part article (Hersh & Johnson, 2008a, 2008b). It features a fairly complex model, which was developed after reviewing the ICF, HAAT, and MPT. More recently, a less elaborate model that explicitly incorporates the ICF was developed (Steel, Gelderblom, & de Witte, 2011). The ICF has also been used to develop an economic analysis of assistive technology systems (Schraner, De Jonge, Layton, Bringolf, & Molenda, 2008).

Beyond the interactionist model represented in the ICF, some have explicitly considered the social model of disability in their discussion of assistive technology. Borg, Larsson, and Östergren take a human rights approach and argue that the provision of assistive technology for people with disabilities is a national and international responsibility (2011). Mavrou used the social model as background for her study of special education and technology, including AT, in Cyprus (2011).

However, I could not find any article about assistive technology in education that mentioned the ICF or the social model except Ira Socol's re-ordered version of Zabala's SETT model (Socol, 2008) and he only makes the medical/social model distinction explicit in his comments on an electronic mailing list exchange (Socol, 2011, January 6). This lack of discussion is what motivated me to study the SETT Framework from the disability studies point of view.

d.   **Assistive technology and discourses**

Since this study is a discourse analysis, it is important to acknowledge the work of Ingunn Moser, a Norwegian researcher who has taken a deep look at the discourses related to assistive technology. She identified four discourses related to the use of assistive technology by people with disabilities:

1) the normalization discourse;

2) the prosthetic discourse;

3) the actor-network discourse; and

4) the cyborg discourse (Moser, 2000).

Moser weaves narratives of her experience with a disabled man she calls Olav, who uses multiple assistive technologies to live independently in his own home, with theoretical discussions of the respective discourses. His assistive technology devices, she notes, compensate to some degree for the body functions he lost after a stroke (Moser, 2000). This is the normalization discourse. The unspoken norm is an able body and assistive technology functions as a means of 'restoring' body functions that were 'lost'. In this sense, the goal of assistive technology is identical with the goal of rehabilitation, which explains why it is often called 'rehabilitation technology'. Moser goes right to the heart of why this is troubling from the point

of view of the social wrong when she makes the interesting observation that, although the use of

assistive technology gives Olav independence, it also constitutes him as dependent within the

discourse of normalization. She notes,

> It seems completely natural to us that it is Olav that has to depend on an assistive
> technology to be able to speak and make himself understood to us, not we who are
> dependent on the same device to be able to listen to and hear Olav. Disabled people are
> dependent on technology, prosthetics and other aids, but 'we' are not, we 'the abled'.
> Normally, naturally and ideally, 'we' are independent of technology and other people.
> (Moser, 2000, p. 205)

I have observed this problem over and over in my work doing assistive technology in

schools. I call it *the crutch problem*. For example, after I recommend assistive technology (on

behalf of the student, if they find it helpful) for a some specific task, such as text to speech

software to provide auditory support when print-based materials pose a barrier for a student,

some teacher (usually a general education teacher) will inevitably say, "Well, he should continue

to try reading on his own… I don't want the assistive technology to become a crutch." When this

statement is analyzed, the unspoken presumption is that it is not 'normal' to access text through

the auditory pathway; therefore, we should not want the student to become 'dependent' on a

'crutch'. Crutches, of course, are temporary devices for the able-bodied. If you must depend on

them, you are "destined to be substandard" (Moser, 2000, p. 209) within the discourse of

normalization. Moser rightly concludes that "normalisation is not a good strategy for including

disabled people" (2000, p. 210) because it always constitutes the disabled as outsiders. However,

in my experience, it is the most common discourse through which the purpose of assistive

technology is understood. The next two discourses are much less common, especially in K-12

education.

The prosthetic discourse, as Moser describes it, is slightly different from normalization

because, even though it was originally the same discourse situated in rehabilitation as material

artifact (e.g. a prosthetic leg), it has been appropriated by anthropology and cultural studies as a

metaphor. Moser describes the difference this way: "The prosthetic device is not something that

distinguishes us form the norm, based on what is human and natural, or some that makes us

dependent; the prosthesis is the norm (Stone, 1995; Wigley, 1991; Soby, 1993)" (2000, p. 214).

It is a recognition that all of us use prosthetic devices, although they are not always material.

Moser concludes, though, that because this discourse is still based on the augmentation of the

normal human body, it continues to reinforce the exclusionary power of normalization (2000).

The actor-network discourse is more common in science and technology studies (STS),

very uncommon in education and not often applied to disabilities studies. It is based on the

theoretical work of Bruno Latour, John Law, and others and seeks to explain how both objects

and humans are actors in networked relationships with each other. "Actor-network theory

suggests we construct ourselves as an actor-network or a hybrid collective; relations and

associations of materially heterogeneous components such as bodies, scientific discourses,

machines, everyday practices, physical surroundings, etc." (Moser, 2000, p. 222). Moser

explores its potential application to disability and suggests that, because the human subject is not

assumed to be the center of the network, both disability and ability are placed "on equal footing,

as the result of how our surroundings, or the set of relations of which we are part, is arranged and

organised (Moser and Law, 1998)" (2000, p. 222). The potential of this discourse in terms of

assistive technology and the social wrong is that the technology is not seen as an aid to

normalization but is seen as another "actor" in the networks of which constitute us all. "If the

network is in place, we are enabled to function; if the network is not in place (if links and

passages are missing), we are disabled" (Moser, 2000, p. 223). This means all of us are

sometimes 'disabled' and sometimes 'abled' by our relationship to the networks in which we

function. "Ordered in this way, then, disability is a matter of specificity; of the specific situations that either disable or enable us. A disability is thus not a given condition, but a result of specific relations and configurations" (Moser, 2000, p. 224). However, Moser concludes that, although this discourse has the potential to disrupt the discourse of normalization, it is hard to apply to the lives of individuals such as Olav because it implies an "endless line of specific and ever-changing configurations" (Moser, 2000, p. 227). I think it is problematic because it implies a post-human ontology that is not likely to be widely understood or accepted for a variety of reasons, especially in education, which thus limits its potential.

Finally, Moser (2000) turns to the cyborg discourse and suggests that it is the one with the most potential to reimagine the relationship between disabled people and their assistive technology. The term *cyborg* was coined in 1960 by cybernetic researchers looking for ways to adapt human bodies for extended space travel. The first 'real' cyborgs were rats outfitted with an implanted osmotic pump (Clark, 2003). But cyborgs have a long history in science fiction (Parrinder, 2009) and were later appropriated as a metaphor for thinking about the boundaries of human subjectivity. As Donna Haraway famously put it, "By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism: in short, we are cyborgs" (1991, p. 149-150). Moser illustrates the cyborg aspect of Olav's life by his cyberspace connection through the Internet to the world of people and places he can no longer physically access.

According to Moser, what distinguishes the cyborg discourse from actor-network theory is that "unlike collectives, cyborgs have identifiable boundaries and are recognisable over time (even when their boundaries are flexible and shifting). […] The cyborg is a metaphor for… an entity that is both machine and human, but is nevertheless a single entity; an embodied entity"

(Moser, 2000, p. 229-230). This discourse specifically constructs, in the metaphorical

interpretation given to it by Haraway, a "post-human landscape against the background of which

we all appear as composite constructions or hybrid collectives with ever-changing boundaries"

(Moser, 2000, p. 229). And yet, Moser insists, cyborgs take the post-human discourse one step

further than actor-network theory. Relying on Haraway's interpretation, Moser muses,

> The tale of the 'death of the Subject' has thus prepared the ground for a multitude of non-uniform subjects and actors and stories. This diversity was neither conceivable nor visible as long as the norm - the normative Subject - reigned supreme. But as soon as we recognise that he, the norm, is a pretty weird, lonely and limited guy, our eyes are opened up to all the differences. The world is full of actors and subjects who refuse to accept the positions they are interpellated into, who refuse to fit into the norm. (Moser, 2000, p. 233)

> For this reason, she asserts:

> Calling Olav a cyborg, by saying that he too is a cyborg, acknowledges more of his means for constructing actor and subject positions for himself than is possible from within the normalisation discourse, the prosthetic discourse or the hybrid-collective discourse. (Moser, 2000, p. 232)

> Certainly, the cyborg discourse whose subject is that part-human, part-machine entity is

more easily recognizable in popular culture and is therefore perhaps more widely useful. As

Gray, Mentor, and Figueroa-Sarriera note, "Cyborgs can range from the barely organic

Terminator, merely a human skin over a complete robot, to Chief Engineer Geordi LaForge of

the… Star Trek [TV series], with his prosthetic visor" (1995, p. 2-3). Because of the popularity

of this character, the late twentieth century has been labeled the Cyborg Age (Gray et al., 1995).

Humans have used tools for tens of thousands of years but our use of them accelerated with the

Industrial Revolution. "Since then the integration of machines into cultures, lives, and bodies,

has become pronounced. There is no longer a 'partnership' between machine and organism;

rather there is a symbiosis" (Gray et al., 1995, p. 4).

This symbiosis is complex and it is complexity that gives the cyborg metaphor its power. In the Cyborg Age, there is no technology-independent normality from which to construct disability as technology-dependent as in the normalization discourse. Cyborgism is a natural quality of our modern existence. Gray et al. take an expanded view of cyborgs when they note:

> There are many actual cyborgs among us in society. Anyone with an artificial organ, limb or supplement (like a pacemaker), anyone reprogrammed to resist disease (immunized) or drugged to think/behave/feel better (psychopharmacology) is technically a cyborg. The range of these intimate human-machine relationships is mind- boggling. It's not just Robocop, it is our grandmother with a pacemaker. Not just Geordi but also our colleague with the myloelectic prosthesis arm. Even if many individuals in the industrial and post-industrial countries aren't full cyborgs, we certainly all live in a 'cyborg society.' Machines are intimately interfaced with humans on almost every level of existence not only in the West and Japan but among the elite in every country of the world. (1995, p. 2)

How profound is our cyborg identity, though? Is it uniquely a postmodern metaphor useful for deconstructing the boundaries of what it means to be human? Gray et al. argue that humans have not always been cyborg:

> Certainly, we can look back from the present at some human-tool and human- machine relationships and say, 'Yes, that looks very cyborgian,' but [...] in quantity, and quality, the relationship is new. Yes, it is a direct development out of the human-tool and human-machine relationships, but it represents a fundamentally new stage, perhaps even culmination, of this history. (1995, p. 6)

Cognitive scientist Andy Clark disagrees:

> Human beings, I want to convince you, are natural-born cyborgs. This may sound like futuristic mumbo-jumbo....but I do believe that it is the plain and literal truth. I believe, to be clear, that it is above all a SCIENTIFIC truth, a reflection of some deep and important facts about...our special, and distinctively HUMAN nature. Certainly I don't think this tendency toward cognitive hybridization is a modern development. Rather, it is an aspect of our humanity, which is as basic and ancient as the use of speech and which has been extending its territory ever since. (2003, p. 30).

This description of our natural cyborgicity, upon which Andy Clark elaborates in his book, *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence* (2003), seems to go deeper into the embodiment of our cyborg identity than the writings of

cyborgologists in the fields of science studies and anthropology. Clark includes the use of simple tools like pen and paper as evidence of our cyborg nature. When pen and paper are in the same category in relation to the human body as the crutch, most of the 'problem of the crutch' disappears as it is acknowledged that we all use tools.

However, there is still the problem of stigmatization through the discourse of normalization. Clark focuses on the embodied cognitive 'scientific reality' of the cyborg but ignores the social dynamics of impairment, especially in his discussion of cochlear and cortical implants.

> It takes about a year of 'cortical training' for the visual system to become normal, a process that can be blocked by cataracts or other impairments, which deprive the visual cortex of the experience it needs. Remove the cataracts and replace the affected lens with a clear artificial one, and improvement is again dramatically fast. According to one researcher, this kind of result 'demonstrates the amazing plasticity of the young brain and underscores the importance of complex, balanced, early sensory input for guiding subsequent brain development. (Clark, 2003, p. 1030-1046)

Words like *normal*, *deprive*, and *improvement* put us back into the normalization and prosthesis discourses and the potential power of the cyborg metaphor to neutralize the stigmatized relationship of disability and technology is lost. Siebers makes this point in his discussion of cyborgs:

> Frequently, the objects that people with disabilities live with – prostheses, wheelchairs, braces, and other devices – are viewed not as potential sources of pain but as marvelous examples of the plasticity of the human form or as devices of empowerment....Prostheses always increase the cyborg's abilities; they are a source only of new powers, never of problems. (2008, p. 62-63)

Sieber's point, of course, is that these objects are not always viewed as empowering by the people who have to use them. This seems ironically to prove the point made by Gray, et al.: "Cyborgs remind us that we are always embodied, but that the ways we are embodied aren't simple" (1995, p. 7). The cyborg metaphor is supposed to complicate simple binaries and challenge boundaries, but problems surface when the prosthetic aspects of the human-technology

hybrid are emphasized. This tends to happen when the disabled body is held up as an especially strong example of the cyborg self as Haraway does when she muses, "Perhaps paraplegics and other severely handicapped people can (and sometimes do) have the most intense experiences of complex hybridization" (1991, p. 178). However, as Kafer notes,

> If nondisabled people are persuaded by the argument that people with disabilities are real-life cyborgs, then cyborg status signals a distinction between non-disabled people and people with disabilities. Cyborg qualities become markers of difference, suggesting an essential difference between people with disabilities and able-bodied people. (n.d., p. 6-7)

Thus, the cyborg identity has been challenged from the representational point of view. I one heard a young girl suggest that there is something 'cool' about a middle school student I know whose body is surrounded by high tech gadgets that give him power mobility and eye-gaze controlled augmentative communication. But in the middle of his 6th grade class, these gadgets also set him apart. I think it would take a lot of convincing to get his classmates to think of themselves as equally possessive of cyborg qualities, although—through prosthetic social extensions like texting and Facebook—they are.

Of course, there is also a material challenge to the potentially helpful use of the cyborg metaphor in reconstructing the relationship between disability and technology. It is one that resonates during this current time of economic crisis:

> In light of this material reality, constituting the disabled subject as cyborg actually renders as immaterial the actual struggles of disabled subjects fighting for their immediate economic survival. [...] For example, those disabled people who face economic deprivation on a daily basis seldom have access to the technology that can offer their 'unlivable' bodies the cyborgean possibilities that poststructuralists extol. (Erevelles, 2001, p. 98)

3.   **Special education as a social practice**

As previously described, assistive technology in education is a practice that takes place primarily in conjuncture with the practice of special education. Research around the topic

of special education/inclusive education is vast and can be much contested, depending on the researcher's paradigm (Allan & Slee, 2008, p. 141). I will review here some of the critical perspectives.

The following excerpt illustrates the degree to which special education has become a *habitualised* (Chouliaraki & Fairclough, 1999) social practice:

Four of my five kids have been on IEPs (Individual Education Plans) at one point or another. Two of them still are and I have little doubt that my youngest will be too once she hits school. She's only two, but she's already dropping her s's just like her brothers did. I don't have a problem with this. To be honest, everyone should probably have an IEP, but the term IEP carries a certain stigma with it, so in modern educational settings we call this "differentiated instruction". Whatever.

What I do have a problem with is the IEP process itself. Once a year, we all walk into a room (usually the principal, a guidance counselor, specialists, teachers, my wife and me, and possibly the kid in question, depending on his age (or her age, as the case may be in a few years). Everyone goes around in a circle, gives an update (he's having trouble with this, he's doing well with this, he needs to work on this, etc.) and then the special ed liaison turns to us and says, "So what is your vision for? Do you have any goals in mind for?"

I've literally done this at least 30 times for my kids. I can come up with a brilliantly crafted vision statement faster than most people can sign their names. When I was teaching and sat in on other kids' IEP meetings, I used to help other parents write vision statements for their own kids. I couldn't help myself. And, not to pat myself on the back too hard, but mine were better than theirs anyway.

Then a couple weeks later, we get a big envelope in the mail with said vision statement featured prominently and a recycled set of goals from the previous year with minor updates. Or they're the same goals if the secretary forgot to change them. I skim the 20-page document to make sure they aren't slipping in some reduction in services we didn't authorize, tell my wife it's OK, she signs it, sends it back, and that's the last we hear of the IEP.

It's a legal document that obligates the school to provide services. Nothing more, nothing less. Whether or not my kid is achieving his goals or, better yet, having positive outcomes in school rarely has much to do with that document and much more to do with his teachers' efforts and my "active followup" (that's a euphemism for being a pain the butt). This is the same document, by the way, that teachers skim at the beginning of the year and then ignore for the rest of the year just like we do.

I know I'm making some very sweeping statements here and I know that there are very notable exceptions to the scenario above. I also know that there are schools and

districts that are even worse, whether because of poor funding, poor training, or both. The point is that this process is generally broken nationwide and does nothing to address kids without disabilities but are either gifted or struggling in specific ways that should be addressed with specific differentiated instruction. (Dawson, 2012, para. 1-6)

The rather cynical nature of this excerpt begins to illustrate, in common language and from a parent's perspective, a critical view of special education. It was produced for public consumption as a blog entry on educational technology by ZDNet.com. Tellingly, the technology reviewed in the article was a social media tool that contains individualized goals and evidence of outcomes, much like an IEP, but is designed to be used with any student. The author comments:

And there's the rub. It shouldn't take a legal contract for students to be assessed based on goals, objectives, and outcomes or for parents and teachers to be able to communicate through an intuitive social interface about a student's progress outside of the occasional progress report or grade report. (Dawson, 2012, para. 10)

The rub, from a more theoretical perspective is that, on one hand, special education, in its current form in the United States at least, is a practice based on civil rights legislation designed to force the educational system to take responsibility for disabled students (Public Law 94-142 and its successors), while on the other hand, this same legal foundation has been criticized as institutionalized ableism (Beratan, 2006). It is a social practice whose goal is to serve students with disabilities but in my experience working within the special education system of a large suburban school district in the U.S., it is practiced with very little critical reflexivity about the concept of disability. Rather, the weight of the legal mandates that define the practice seem to reify the social constructions that underpin it—constructions, like normalcy, intelligence, and the medical model of disability, that have for several decades been questioned by disability activists and academics. There is very little incentive inside the system to think critically when the material consequences, especially during a time of global economic crisis, seem significant. From this perspective, Chouliaraki and Fairclough's (1999) definition of a social practice as ways of 'applying resources' is particularly apt. The cost of applying resources in a time when

school districts are struggling with budgets and the national political conversation is dominated

by the size of the federal deficit revives what Tomlinson called "the permanent economic

dilemma of special education: how to provide as cheaply as possible for the handicapped, while

at the same time ensuring that as many as possible grow up productive and self-sufficient" (1982,

p. 79).

In 1979, only a few years after the passage of P.L. 94-142 when everyone was uncertain

what the financial impact of the law would be, Kakalik (1979) wrote an analysis of the factors

affecting the cost of special education. The law mandated that money be spent to guarantee

disabled children the right to a 'free and appropriate public education' but as Kakalik states, "the

definition of a handicapped child affects the size and characteristics of the population to be

served and hence the funds required" (1979, p. 197). What was essential, therefore, was the

"determination of what characteristics of children are to be considered exceptional, and what

services are needed by children with various sets of those characteristics" (Kakalik, 1979, p.

197). This requirement created what has become standard procedure in special education: 1) the

determination of eligibility based on state-defined categories of need; 2) determination of

individualized goals; 3) determination of what services are needed to meet the goals; 4)

determination of placement according to the ethos of 'least restrictive environment'; and 5)

determination of accommodations needed. It is a functionalist approach that has not changed

much since the 1970s. Categories of eligible disabilities have expanded. Additional services,

such as assistive technology, have been added. But "functional assumptions" still "preclude

much questioning of definitions" (Tomlinson, 1982, p. 15).

The perspective that individual student characteristics can be used to define disability is,

of course, the medical/individual model. Theoretically, it has been labeled the *essentialist*

approach and grouped under the *functionalist* paradigm with the *managerialist* or *systems-based* approach (Riddell, 2007). This latter approach has developed in parallel with organizational concepts from the business world. The focus is on running smooth and effective organizations with an increased emphasis on accountability. In the U.S., the managerialist approach has created another source of exclusionary pressure as standardized testing has become the all-important indicator of success under the mandates of No Child Left Behind (Peters, Johnstone, & Ferguson, 2005, p. 140).

Tomlinson, in *A Sociology of Special Education*, called this the *structural-functionalist* approach (1982). Structurally, the 'handicapped' were viewed as a social problem because they deviated from the norm. Functionally, the "numbers must be known so that provision can be made" and survey tools were used to get the numbers (Tomlinson, 1982, p. 15). The survey tools were based in the historically medical and psychological definitions of 'defect' (Tomlinson, 1982). The problem with this approach is that "the functional assumptions behind the social problem… preclude much questioning of definitions" (Tomlinson, 1982, p. 15).

What has gone missing inside special education, not to mention education as a whole, is a critical approach to definitions of disability, although I could not find much quantitative research to support this observation. A study of 641 general education teachers in Greece investigated beliefs about disability and inclusive education and concluded that the teachers held a number of restrictive beliefs, including the belief that disabled children are self-isolated and in need of society's help (Zoniou-Sideri & Vlachou, 2006). In my own experience working district-wide with special and general educators in twenty schools, I've never heard anyone talk about disability from any perspective other than the medical/individual model. This is despite the fact that there is now several decades' worth of literature and research from the critical perspective.

Interestingly, an attempt has been made to connect the interactionist ICF model of disability to

education. The author offers it as an alternative to traditional special education categorization

(Norwich, 2007). But as Linda Ware has noted,

> Although disability permeates the everyday schooling context in multiple and complex ways, it is the medical model alone that inscribes ideology, history, social, and political assumptions about disability. Conversations about the meaning of the concept of disability are rare among educators who generally accept the categorical definitions of disability proffered by special education systems that, in turn, displace the lived experience and thus diminish understanding disability as part of the larger human experience. (2005, p. 111)

How is special education theorized critically? Riddell (2007) has categorized several

approaches that fall under the critical paradigm. One is the *materialist/critical* social policy

approach that seeks "to understand the link between education, the reproduction of social

relations within captialism and the way this relationship is regulated by the state" (Riddell, 2007,

p. 39-40). As far back as 1982, Sally Tomlinson argued that a sociological imagination was

needed to turn the "rhetoric of the 'special needs children' around" so that an analysis of the

"needs and interests of dominant groups in education and the wider society" could be done

(1982, p. 178). What she advocated, from a *structural-conflict* perspective, is analogous to the

figure-ground reversal of the social model. It is turning the lens from defining, classifying and

categorizing the individual to the social structures that do the defining, classifying and

categorizing. It is acknowledging that "society perpetuates and reproduces the conditions for its

own existence by the transmission or withholding of varying amounts and kinds of education to

different social groups" (Tomlinson, 1982, p. 179). Roger Slee summarized the impact of

Tomlinson and Barton (another pioneer of special education critique) this way:

> From this point onwards a new argument was put onto the table that become increasingly difficult to ignore. Special education was not simply a technical and benevolent enterprise to teach and care for the so-called disabled, defective, disordered or disturbed child. Special education, as a subset of schooling in general, is a vital part of a political project to order and regulate the childhood population. Maintaining regular and special

education involves decisions about the distribution of public funds. Decisions are made, based largely upon normative judgments about ability and disability, about the type and location of school placement…. These decisions: establish life trajectories that potentially limit opportunities; may separate children from their siblings, neighbourhood peers and communities; impact upon the nature and quality of the education they engage in; reinforce hierarchies that fracture communities and limit human potential; have profound economic implications; may put the interests of institutions above the interests of individuals; compromise our democratic ideal. (2011, p. 70)

Another approach Riddell categorizes under the critical paradigm is the civil rights approach. In 1981, Steven Taylor identified 12 specific social barriers that excluded students with disabilities from mainstream education: technological, attitudinal, jurisdictional, administrative, political, architectural, economic, personnel, logistical, legal, motivational, and idiosyncratic (1981). Although he doesn't mention the social model in this short report, the identification of social barriers aligns well with its definition of disability as oppression and exclusion. This perspective provides one of the foundations for what is known as inclusive education or simply 'inclusion'. Peters, Johnstone, and Ferguson argue that inclusive education should be based on a Disability Rights in Education Model that involves local, national, and international levels (2005). They define the practice as a "system-wide commitment" to "the education of children and youth with disabilities in general education classrooms with their nondisabled peers" (2005, p. 142). It is a well-known practice in education but is problematic because it means different things to different people (Peters et al., 2005) and may simply contribute to the reproduction of dominant social views (Slee, 1997).

Riddell's (2007) third category under the critical paradigm is *social constructionist* approach. I have already noted that this approach is widely used in disability studies; therefore, it is not surprising that research around disability in education is also based on it. If the concept of disability is a social construct, then it is possible to identify the social structures that produce it. From this perspective, special education as a system is not an inevitable reality designed to

respond to the discovery of disability in individual children but is rather a socially constructed

contingency built on the medical/individual model concept of disability. Deconstruct the

definition of disability and the social construction of special education becomes more obvious,

from its categories of 'eligibility determination' to the proliferation of specialists (including

assistive technology specialists!) who crowd the conference room during IEP meetings.

Thus, according to Peters et al., the education that should be connected to disability rights

is fundamentally based on social constructionism and should be all inclusive. They define

inclusive education with four assumptions, all of which remove the 'special' from education:

1) All students come to school with diverse needs and abilities, so no students are
fundamentally different.
2) It is the responsibility of the general education system to be responsive to all students.
3) A responsive general education system provides high expectations and standards,
quality academic curriculum and instruction that is flexible and relevant, an accessible
environment, and teachers who are well prepared to address the educational needs of
all students.
4) Progress in general education is a process evidenced by schools and communities
working together to create citizens for an inclusive society who are educated to enjoy
the full benefits, rights, and experiences of societal life. (2005, p. 142-143)

These assumptions call into question, of course, the way the educational system as a

whole is structured. The question of inclusion is: inclusion into what? (Barton & Armstrong,

2001, p. 707). As Barton and Armstrong point out, "How schools are organized is not a matter of

chance or a form of neutral decision making and thus can be a means of sustaining existing

inequalities that often remain hidden behind a plethora of facilitative rhetoric" (2001, p. 699).

Roger Slee recently offered the possibility of what he calls the "irregular school" because "the

special school and the regular school are equally problematic and distractive notions" (Slee,

2011, p. 157). He describes the irregular school in terms of four propositions:

1) Reframing the field: Inclusive education declares its commitment to identifying and
dismantling educational exclusion;
2) Re-righting language: Inclusive education recognizes language as an instrument of
power and seeks to restore and embed a vocabulary of rights and justice in education;

3) Re-searching for inclusion: Inclusive education employs a comprehensive array of research methodologies and tools in search of the complex structure and properties of exclusion and for ways to overcome its deleterious impacts;

4) Re-visioning education: Inclusive education provides an alternative vision for education as a democratic apprenticeship to build sustainable communities. (Slee, 2011, p. 153-159)

It is Slee's (2011) second proposition that most directly relates to this study given that the methodological approach is critical discourse analysis. Slee notes that his concern with language is related to the way the word 'inclusion' is used within education as a Trojan horse to innocuously dress up exclusionary practices in politically correct language. He uses the example of how publishers of traditional special education textbooks that are based largely on the medical model of disability (Slee humorously calls it the Grey's Anatomy approach) insert chapters on inclusive education without any awareness that the rest of the language about disability reproduces the exclusionary practices inclusion is supposed to resolve (Slee, 2011). His point is that it is not sufficient for language to sound inclusive. It needs to help enact inclusion.

III. METHOD

A.   **<u>Approaches to Critical Discourse Analysis</u>**

Critical discourse analysis (CDA) was chosen as the research methodology for this study because it is well suited for analyzing text. In the context of this methodology, a single text is not discourse but is part of discourse. More precisely, a single text is a little 'd' discourse that is part of big 'D' Discourses, which always involve "language plus 'other stuff'" (Gee, 2011b, p. 34).

> Discourses, for me, crucially involve: a) situated identities; b) ways of performing and recognizing characteristics identities and activities; c) ways of coordinating and getting coordinated by other people, things, tools, technologies, symbol systems, places, and times; d) characteristic ways of acting-interacting-feeling-emoting-valuing-gesturing-posturing-dressing-thinking-believing-knowing-speaking-listening (and, in some Discourses, reading-and-writing, as well). (Gee, 2011b, p. 40)

Wodak and Meyer define big "D" Discourse in a similar manner and explain why Discourse and, by extension, its analysis is important:

> …discourse is socially constitutive as well as socially conditioned - it constitutes situations, objects of knowledge, and the social identities of and relationships between people and groups of people. It is constitutive both in the sense that it helps to sustain and reproduce the social status quo, and in the sense that it contributes to transforming it. Since discourse is so socially consequential, it gives rise to important issues of power. Discursive practices may have major ideological effects - that is, the can help produce and reproduce unequal power relations between (for instance) social classes, women and men, and ethnic/cultural majorities and minorities through the ways in which they represent things and position people. (Fairclough & Wodak, 1997, as quoted in Wodak & Meyer, 2009, p. 6)

I have already identified, in my review of the theorization of the social wrong, how disability can be understood as the result of unequal power relations. Discourse is part of the social wrong because, as noted in the above quote, it helps sustain and reproduce the social wrong (but can also help transform it). The approach to analyzing discourse, therefore, "needs to be critical, not because discourse analysts are or need to be political, but because language itself is… political" (Gee, 2011b, p. 9). Political, in this context, means "how to distribute social goods in a society: who gets what in terms of money, status, power, and acceptance on a variety of

different terms" (Gee, 2011b, p. 7). The critical approach is consistent with other research methodologies within the field of disability studies (for example, Allan & Slee, 2008). Thus, critical discourse analysis is a fitting methodology for examination of the SETT Framework document from the perspective of a social-interactionist model of disability.

Wodak and Meyer identified six different approaches that fall under the umbrella of CDA, including:

1) Discourse-historical approach, which uses linguistic theory with historical analysis;

2) Corpus-linguistics Approach, which analyses large amounts of text quantitatively;

3) Dispositive analysis, which they describe as closest to Foucault's notion of discourse;

4) Social Actors Approach, associated with van Leeuwen and emphasizing the role of action;

5) Sociocognitive approach, associated with van Dijk and drawing on socio-cognitive theory; and

6) Dialectical-Relational Approach, associated with Fairclough and oscillating between semiosis and other elements of social practice (2009).

Wodak and Meyer (2009) rank these approaches in this order, going from inductive strategies that rely on detailed case studies at the top of the list to deductive strategies that rely on general perspectives at the bottom of the list. They also situate these approaches on a coordinate chart according to where they fall in terms of the polarity between structure and agency and the polarity between "detailed, linguistic operationalization" and "broad linguistic operationalization" (Wodak & Meyer, 2009, p. 20-22). Fairclough's dialectical-relational approach is charted in the quadrant associated with 'structural/broad linguistic' approaches.

B.   **Fairclough's Approach to Critical Discourse Analysis**

Fairclough's specific approach to critical discourse analysis was chosen as the overall

approach for this study because it seemed best suited for analysis of the relationship between a

single text and social practice. In Fairclough's view, "language… is an element of the social at

all levels" (2003, p. 23). He schematizes this relationship as follows:

> Social structures > languages
> Social practices > orders of discourse
> Social events > texts (Fairclough, 2003, p. 23)

The SETT Framework document, the raw data of this study, is a text or, in Fairclough's

(2003) terms, the semiotic aspect of a social event. The social wrong, the lens of this study, can

be understood as a problem at the level of social structure or social practice, depending on one's

interpretation of the social model of disability. As I have already mentioned, Fairclough views

social practice as an "intermediate organizational entity between structures and events" and

avoids a structuralist view that locates the social wrong at structural level (2003, p. 23). Using

the arguments of critical realism as his base, he defines social structure as a "set of possibilities"

that are in an open, complex relationship with social events. Social practices, then, are the focus

because they "can be thought of as ways of controlling the selection of certain structural

possibilities and the exclusion of others" (2003, p. 23). Together with Chouliaraki, Fairclough

argues that "the advantage of focusing upon social practices is that they constitute a point of

connection between abstract structures and their mechanisms, and concrete events - between

'society' and people living their lives" (Chouliaraki & Fairclough, 1999, p. 21). Focusing on

social practice also allows for the possibility of change in the social structure.

Fairclough acknowledges the importance of Foucault's important contribution to

discourse analysis, including the following:

1) the constitutive nature of discourse;

2) the primacy of interdiscursivity and intertextuality;

3) the discursive nature of power;

4) the political nature of discourse; and

5) the discursive nature of social change (Fairclough, 1992).

However, he criticizes Foucault for not including the discursive and linguistic analysis of real texts because he believes this skews analysis towards structure without sufficient acknowledgement of the properties of social practice and social events (Fairclough, 1992). He maintains that what differentiates his approach to CDA from more Foucaultian versions is that it "anchors its analytical claims about discourse in close analysis of texts" (Chouliaraki & Fairclough, 1999, p. 152). Fairclough insists that CDA should focus on the relationship between semiosis and other social elements (Wodak & Meyer, 2009).

Jørgensen and Phillips note that Fairclough uses the term *discourse* in three different ways. First, in an abstract sense, he uses discourse to refer to the concept of "language use as social practice" (Jørgensen & Phillips, 2002, p. 66). This concept is based on Fairclough's view of the dialectical relationship between discourse and social structure. In this relationship, discourse is both "shaped and constrained by social structure" and is "socially constitutive" (Fairclough, 1992, p. 64). It is socially constitutive because it contributes to "all those dimensions of social structure which directly or indirectly shape and constrain it: its own norms and conventions, as well as the relations, identities and institutions which lie behind them" (Fairclough, 1992, p. 64). In this sense, discourse is a practice "not just of representing the world, but of signifying the world, constituting and constructing the world in meaning" (Fairclough,

1992, p. 66). This concept is fundamental to the discourse analysis methodology that informs this whole study.

Second, Fairclough uses the term discourse to refer to "the kind of language used within a specific field, such as political or scientific discourse" (Jørgensen & Phillips, 2002, p. 66). Fairclough refers to this as particular *orders of discourse*, a term he borrowed from Foucault (Fairclough, 1992) but defines as a "network of social practices in its language aspect" (Fairclough, 2003, p. 23). This is discourse at an intermediate level, a relatively stable and durable entity that can also be changed (Fairclough, 2003). The key idea here is that, although there are many possible forms of linguistic variation or difference within the abstract structure of language, the choices among the differences are structured by social practices (Fairclough, 2003). James Gee explains the concept this way:

> The whole point of talking about Discourses is to focus on the fact that, when people mean things to each other, there is always more than language at stake. To mean anything to someone else (or even to myself) I have to communicate *who* I am (in the sense of what socially situated identity I am taking on here and now). I also have to communicate *what* I am doing in terms of *what* socially situated activity I am seeking to carry out, since Discourses (being and doing kinds of people) exist in part to allow people to carry out certain distinctive activities…

> Language is not enough for this.…We also have to get ourselves appropriately in synch with various objects, tools, places, technologies, and other people. Being in a Discourse is being able to engage in a particular sort of "dance" with words, deeds, values, feelings, other people, objects, tools, technologies, places and times so as to be recognized as a distinctive sort of *who* doing a distinctive sort of *what*. Being able to understand a Discourse is being able to recognize such "dances." (2011a, p. 178)

The third use of the term discourse identified by Jørgensen and Phillips in Fairclough's work is closely connected to Gee's explanation and refers to discourse or discourses (it is now a count noun) as "a way of speaking which gives meaning to experiences from a particular perspective" (Jørgensen & Phillips, 2002, p. 66-67). In Fairclough's terms, this type of discourse is an element of the 'orders of discourse' (Fairclough, 1992; 2003) and thus describes a level of

discourse that is closer to a specific text than the first two definitions. This concept is consistent with Fairclough's critique that Foucaultian methods of discourse analysis do not include the discursive and linguistic analysis of real texts (Fairclough, 1992).

Fairclough seems to combine all three meanings of discourse in the following description:

> I see discourses as ways of representing aspects of the world - the processes, relations and structures of the materials world, the 'mental world' of thoughts, feelings, beliefs and so forth, and the social world. Particular aspects of the world may be represented differently, so we are generally in the position of having to consider the relationship between different discourses. Different discourses are different perspectives on the world, and they are associated with the different relations people have to the world, which in turn depends on their positions in the world, their social and personal identities, and the social relationships in which they stand to other people. Discourses not only represent the world as it is (or rather is seen to be), they are also projective, imaginaries, representing possible worlds which are different from the actual world, and tied to projects to change the world in particular directions. […] Discourses constitute part of the resources which people deploy in relating to one another - keeping separate from one another, cooperating, competing, dominating - and in seeking to change the ways in which they relate to one another. (Fairclough, 2003, p. 122)

The SETT Framework as discourse, then, represents a certain perspective but is also a resource used to structure (to constitute or construct) the practice of assistive technology in education.

C.   **Van Leeuwen and Recontextualization**

Although the social model of disability is, I think, easily aligned with an interpretation that locates the social wrong at the level of social structure and social practice, an important aspect of the wrong, especially in terms of research, is found at the level of the social agent. The goal, from this perspective, is empowerment of the people with disabilities. As Charleton notes, the slogan "Nothing About Us Without Us… forces political-economic and cultural systems to incorporate people with disabilities into the decision-making process and to recognize that the experiential knowledge of these people is pivotal in making decisions that affect their lives"

(Charlton, 1998, p. 17). I wanted to incorporate this perspective in some way, even though this study does not directly involve people with disabilities. It seemed to me that the way to do it within the parameters of this study was to incorporate another approach to CDA that emphasized the social agent rather than social structure. This approach, which Wodak and Meyer identify as the Social Actor Approach, is associated with Theo van Leeuwen. He calls it "Discourse as Recontextualization" (Wodak & Meyer, 2009, p. 144).

Recontextualization is concept borrowed from Basil Bernstein and closely linked to the view that "representation is ultimately based on practice, on 'what people do'" (van Leeuwen, 2008, p. 124) and that, therefore, "all texts, all representations of the world and what is going on in it, however abstract, should be interpreted as representations of social practices" (van Leeuwen, 2008, p. 147). Recontextualization is understood as a description of the process that takes place when a semiotic (textual) representation is made of a social practice. It involves a "sequence" of nonlinguistic and linguistic actions that make "recontextualized social practices explicit to a greater or lesser degree" as they are "pass[ed] through the filter of the practices in which they are inserted" (van Leeuwen, 2008, p. 342). It is a process that can happen repeatedly (in a 'chain' of recontexualizations) and always results in transformations of the original social practice, which van Leeuwen identifies as substitutions, deletions, rearrangements and additions. These linguistic features are the categories of analysis he uses to develop his approach.

These two approaches, Fairclough's and van Leeuwen's, are not incompatible. Fairclough discusses Bernstein's concept of recontextualization several times in *Analysing Discourse* and directly mentions van Leeuwen's approach in several places (for example, 2003, p. 138-144 and Chouliaraki & Fairclough, 1999, p. 154). Chouliaraki and Fairclough (1999) link recontextualization to the reflexive/theoretical element of social practice based on the

understanding that "people constantly generate representations of what they do as part of what they do" and that "people's reflexive representations… are in a sense already theories ('proto-theories'—Collier 1994) of their practices" (Chouliaraki & Fairclough, 1999, p. 25-26).

> A theoretical practice recontextualises the social practices it theorises: that is, it delocates them from their original contexts and inevitably in so doing dislocates them, 'breaks off' certain aspects of them from the rest; and it relocates them, bringing different social practices into a new relation which is dictated by the internal logic of the theoretical practice itself, and the 'languages of description' it employs to make sense of social practices (Bernstein 1996). (Chouliaraki & Fairclough, 1999, p. 31)

This definition of recontextualization is central to my construction of the object of research in this study. The SETT Framework belongs to the reflexive element of the social practice of AT in education and is a theorization of the practice of AT in education. As a theoretical practice, the document recontextualizes the social practice of AT in education. It breaks off certain aspects of the practice from its original context in order to relocate the practice in the internal logic of a guiding framework that can be taught to educators and other professionals. This process, by itself, is not necessarily a problem. As Chouliaraki and Fairclough (1999) note, it is a 'normal' part of the reflexive element of social practice. But the process involves *transformations*, to use van Leeuwen's terminology. The question central to this study, then, driven by the perspective of the social wrong, is: What transformations are involved in the representation of the disabled student? Or, how is the student recontextualized?

The difficulty of doing this kind of analysis is that it might be seen as "comparing the truth about an event with how it is represented in particular texts" (Fairclough, 2003, p. 135), which is problematic in terms of "how one establishes the truth independently of particular representations" (Fairclough, 2003, p. 135). In other words, since any model or framework would be a representation of social practice and thus a recontextualization, the process of analyzing the recontextualization cannot be an attempt to critique the text in light of some

privileged knowledge of what 'actually' happens in social practice. Van Leeuwen maintains that it is possible to "reconstruct discourses from the texts that draw on them" (van Leeuwen, 2008, p. 171) but this is not the same as reconstructing the social practice, which is not possible. To solve this problem, Fairclough suggests that the analysis of recontextualization could be understood as a comparison between different representations of the same or similar events (Fairclough, 2003). In this study, I am suggesting that the SETT Framework be compared with the re-ordered and relabeled version that Ira Socol offers, which I will examine in more detail later.

D.   **Combining Fairclough and van Leeuwen**

I follow the outline of Fairclough's (2003) methodology for all aspects of my analysis except where I insert van Leeuwen's (2008) more specific methods for analysis of the representation of social actors and actions. Fairclough's approach is to examine three ways in which discourse is connected in social practice: 1) *genres* - ways of acting; 2) *discourses* - ways of representing; and 3) *styles* - ways of being (2003, p. 25). These form the outline of his interdiscursive understanding of discourse analysis. He discusses recontextualization in relation to both genres and discourses, because it can be both a way of acting and a way of representing. I chose to insert van Leeuwen's method into the 'discourses' part of Fairclough's outline because it aligned with Fairclough's focus on representation (discourses = ways of representing).

Van Leeuwen (2008) identifies ten elements of social practice (participants, actions, performance modes, eligibility conditions for participants, presentation styles, times, locations, eligibility conditions for locations, resources and eligibility conditions for resources), explains how recontextualization works in four of them (actors, actions, time, location), and expands on the construction of legitimation and purpose. It seemed unnecessary, however, to use all of van

Leeuwen's approach in this study. The most salient aspect of his approach seemed to be his method for analyzing the representation of social actors and action since, as previously described, an important strand in disability studies is the *representation* of people with disabilities. However, much of his approach (and Fairclough's) draws heavily on linguistic theory that I have not studied, specifically Halliday's Systemic Functional Linguistics (Chouliaraki & Fairclough, 1999; van Leeuwen, 2008). I decided, therefore, to only include some aspects of van Leeuwen's approach to analysis of social actors and social actions. The specific analytical terms associated with these aspects will be described in context in the analysis section.

E.   **Text Selection**

At its inception, the SETT Framework was a proposed guideline for practice. By itself, the SETT Framework remains an informal policy in the sense that it is not directly connected to an overt power structure. No one is forced to "consume the policy through mandatory and monitored professional development experiences" (Woodside-Jiron, 2011, p. 159). However, it is significant in that it has now been used in many training sessions across the country and has been explicitly incorporated into at least 6 state AT manuals (see Table XI, Appendix C).

It is also significant because it is the dominant process model in the field of AT in education. In my ten years of experience in the field, the SETT Framework is by far the most referenced model at conferences, in trainings, and in other streams of discourse. This observation was confirmed by a very recent analysis of one of these streams, the QIAT Listserv, which noted that SETT was the only model mentioned by practitioners during the 3-year period studied (Wojcik, 2011). At the time of the study, the QIAT Listserv had approximately 1200 members representing multiple roles within the practice of AT in education (Wojcik, 2011). For many

practitioners, the QIAT Listserv is a significant part of the reflexive element of AT practice because it constitutes a 'community of practice' that is not geographically available to many practitioners, who are often the only AT specialists within their place of work (Wojcik, 2011). Its members, although relatively few in number, represent a wide geographical sampling (based on self-reported location in Listserv exchanges) that includes multiple school settings across the US and even some in Canada and New Zealand.

Because of its dominance in the field, and therefore its power to shape practice in the field, the SETT Framework is the object of this study. However, I had to choose between two documents that contained a basic explanation of the framework, both of them authored by Joy Smiley Zabala. The first published document is available from the Educational Resources Information Center (ERIC) as document number ED381962. It is titled *The SETT Framework: Critical Areas To Consider When Making Informed Assistive Technology Decisions* and was a paper presented at a conference in 1995 (Zabala, 1995). The second published document is available from the author's website, www.joyzabala.com. It is titled *Using the SETT Framework to Level the Learning Field for Students with Disabilities* (Zabala, 2005). The two documents are quite similar in that they outline the four categories of the SETT Framework (Student, Environment, Task, and Tool) and situate them in the decision-making process of AT in education. It would be an interesting study to compare the two documents but I did not think this would be necessary for the present study. I focused my analysis entirely on the newer document because it seems to be the author's own revision of her original document. I wanted to give the author credit for any progression of thought that might have occurred in the ten years that separate the two documents.

F.   **<u>Credibility and Confirmability</u>**

Positivistic standards of validity and reliability do not apply directly to qualitative research. Instead, Lincoln and Guba suggest standards of credibility, transferability, dependability, and confirmability (Mertens, 2010). Credibility is described as the qualitative parallel to internal validity and transferability as the qualitative parallel to external validity. Dependability is described as the qualitative parallel to reliability. Confirmability is described as the qualitative parallel to objectivity.

Transferability, described in Mertens as "thick description [that] enables readers to make judgments about the applicability of the research findings to their own situations" (2010, p. 259), is more difficult to provide because the SETT Framework document is unique, both as a text and as a significant aspect of the discourse of AT in education. The findings of this study cannot be generalized but the methodology could perhaps be applied to other policy-type documents in a similar way. Dependability, which refers to stability over time, is also difficult to provide in a study such as this. Mertens suggests documenting changes, which are an expected part of the qualitative research process. However, even this suggestion does not seem to apply to the CDA methodology used here.

Confirmability, however, is possible. Mertens says that "confirmability means that… qualitative data can be tracked to their source, and the logic that is used to interpret the data should be made explicit" (2010, p. 260). The specific methodological logic of critical discourse analysis will be explained in the context of each particular category of analysis. However, I will document here the process I used to produce a detailed analysis of the text. This detailed analysis is available in the appendices in order to provide confirmability.

For the analysis of assumptions, I copied the text (it is available online in an unlocked PDF file at http://www.joyzabala.com/uploads/Zabala_SETT_Leveling_the_Learning_Field.pdf) into a Microsoft Word document, reformatted the line and paragraph spacing as needed, then used the commenting feature in Word to highlight phrases and add the first round of analytic comments in context. I then used a VBA macro to extract the highlighted text and comments to a comma delimited text file and imported that file into Microsoft Excel. In Excel, I was able to sort the analysis by type (e.g. factual assumptions vs. value assumptions). This resulted in decontextualized phrases that were in most cases re-ordered from their context in the original document. Seeing the phrases next to each other in this decontextualized/recontextualized format led me to revise some of my original comments, in some cases to standardize the language I used and in other cases to reclassify extracted phrases. In my written analysis, I summarized the results to eliminate redundancy.

I used the same method for the social actor analysis. For the analysis of social action, though, I simply extracted every sentence of the document into an Excel spreadsheet by using periods as a text delimiter when opening the source data in Excel. I then created different categories for analysis, which are explained in the next section. Again, all of this data is available to the reader in the appendices.

Credibility is a complex issue for CDA. Fairclough states, "There is no such thing as an 'objective' analysis of a text, if by that we mean an analysis which simply describes what is 'there' in the text without being 'biased' by the 'subjectivity' of the analyst" (2003, p. 14). Furthermore, the critical analyst does not stand outside of discourse but, in producing different explanations of an area of social life, is also actively *producing* discourse (Fairclough, 2010). Jørgensen and Phillips note that, classically, the goal of critical research is the critique of

ideology, problematically implying that "one representation of the world is replaced by another,

better representation" (2002, p. 183). How then can critical discourse credibly claim superiority

to the discourse it critiques? Fairclough answers this question from the paradigm of critical

realism:

> The only basis for claiming superiority is providing explanations which have greater
> explanatory power. The explanatory power of a discourse (or a theory, which is a special
> sort of discourse) is its ability to provide justified explanations of as many features of the
> area of social life in focus as possible. So we can say that it is a matter of both quantity
> (the number or range of features) and quality (justification). (2010, p. 8-9)

> Credibility in this study, then, rests on the *explanatory power* of the critique. I have

analyzed a number of textual and interdiscursive features of the text in order to provide quantity.

Hopefully, the quality of the analysis provides justification.

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IV. ANALYSIS

</div>

A.   **<u>Introduction</u>**

Textual description and analysis should not be seen as prior to and independent of social analysis and critique – it should be seen as an open process which can be enhanced through dialogue across disciplines and theories, rather than a coding in the terms of an autonomous analytical framework or grammar. (Fairclough, 2003, p. 16)

What follows is an *interdiscursive* analysis of the selected SETT Framework text.

Fairclough calls his approach *dialectical-relational* (Wodak & Meyer, 2009), which means there

is analysis of both the internal and external elements related to the text. Fairclough includes a

checklist of categories for textual analysis at the end of *Analysing Discourse: Textual Analysis*

for Social Research (2003). Each category of analysis is followed by a list of questions, which I

will use as a guide. It is important to note that, although they are treated separately for analytical

purposes, the categories are not to be understood as discrete (Fairclough, 2003). Following

Fairclough's recommendation, I will start with the external *social event* that produced the text.

Next, I will briefly examine the *manifest intertextuality* of the text. Finally, I will analyze the

interdiscursive elements of the text: 1) *genre* as a facet of action; 2) *discourse* as ways of

construing or representing the world; and 3) *styles* as identities or ways of being (Wodak &

Meyer, 2009). The discourse section will have three parts: 1) a dive into the details of the text in

an extended analysis of the *assumptions* related to the key words of the framework (student,

environment, task, and tool); 2) analysis of the recontextualization of social actors and actions

using van Leeuwen's methods; and 3) analysis of the text's relationship to the larger discourses

identified by Moser (2000).

B.   **<u>Analysis of Social Events</u>**

The first category of analysis is social events and is guided by the following questions:

- What social events and what chain of social events is the text a part of?

- What social practice or network of social practices can the events be referred to, be seen as framed within?
- Is the text part of a chain or network of texts? (Fairclough, 2003, p. 191).

1. **What chain of social events is the text part of?**

Unlike a political speech, the text for the SETT Framework does not come from one social event. It is part of a chain of social events that are embedded in different networks of social practice related to assistive technology in special education. Although I have selected the 2005 SETT Framework document as the raw data for this study, this section will focus on the social events that surrounded the creation of the original 1995 SETT Framework document. The reason for this will be made clear in the next section.

The text itself evolved out of collegial discussions which involved the author, Joy Zabala, while she was an employee of the Region 4 Education Service Center (abbreviated to *Region 4*) based in Houston, Texas. This organization, which is part of the structure of the public education system in the state of Texas, is positioned midway between the state and individual school districts. According to current statistics posted on its website, Region 4 serves 53 school districts, which together employ more than 83,000 professional educators and serve over 1 million students (Region 4 Educated Solutions: About Region 4, n.d.). It is governed by a board of seven elected officials from different regions and one appointed official representing charter schools. Region 4 provides support services and professional development to member districts. One of the twelve academic services provided, as listed on a drop-down menu on the organization's current webpage, is special education. Within this category of services, assistive technology is one of 23 subcategories of special education service currently provided. Within the category of assistive technology, the current website lists "professional development opportunities and technical assistance" as services (Region 4 Educated Solutions: Assistive Technology, n.d.).

The following is Zabala's own description of the origins of the SETT Framework. The date of the events is not specified but they must have occurred before 1995, the date of the first documented SETT text (Zabala, 1995).

> The need to develop a clear, easily communicated and understood definition of a student-centered, task-focused, environmentally useful approach to looking at assistive technology was brought to my attention by a new colleague at Region IV Education Service Center. Like most people working in the area of assistive technology, we are regularly asked by our participating districts to make recommendations about what hardware and/or software is the "best" for them to purchase for their students with disabilities. This, of course, is not a readily answerable question without considerable additional exploration.
>
> Our new colleague, however, wanted very much to provide helpful information, so he came often to consult with our group about what suggestions he might give to districts seeking assistance. Our answer was consistently, "It depends." Though we had frequent, lengthy discussions about what "it" depended upon, we did not make much headway toward developing a common understanding of assistive technology issues and ways to go about addressing them. Patience grew thin on all parts! "This was NOT new stuff! People have been considering these issues for years!" we said. "OK, then," said he, "Just tell me about it in language I can understand! Forget the jargon and just help me know what to do and how to think about all this stuff!"
>
> One day, after yet another discussion, I approached my explanation from another angle, "Consider this. To get the best shot at putting together a system of tools, you need to explore the student, the environments in which the student is expected to use the tools, and the tasks which are an inherent part of communicating, participating and being productive in those environments!" It was a big "Ah, ha!" for all of us! He understood and we realized how simple, yet complicated this all was! Later, when I was struggling to put these old, tried and true ideas together in a new and easily-remembered way, this persistent and thoughtful colleague said, "Well, THAT part's easy! It's just the SETT!" And so it is! (Zabala, 2000)

This story, of course, is itself the contextualization of a series of concrete social events and its discourse could be analyzed. The point here, however, is to give some sense of the concreteness of social events that produced the SETT text analyzed in this paper.

In this anecdote, Zabala (2000) identifies herself and her group ("our answer") and identifies the existence of a conflict ("we did not make much headway toward developing a common understanding" and "patience grew thin on all parts") between her group and a "new

colleague" that took place over time ("frequent, lengthy discussions" and "one day, after yet another discussion"). The "new colleague" seems to represent a different group within the organization ("he often came to consult with our group").

The specifics of the conflict are not clearly identified in this anecdote, but the problem identified in the story provides some clues and leads to a consideration of the various networks of practice involved. The problem was that Region 4 was "regularly asked by our participating districts to make recommendations about what hardware and/or software is the 'best' for them to purchase for their students with disabilities" (Zabala, 2000). A school district is a structure lower in the hierarchy of the state education system that is constituted by a complex network of social practices. One of the social practices directly involved in Zabala's (2000) anecdote is the procurement of goods and services. The goods, in this specific case, were assistive technology hardware and software. The other social practice involved is special education because the technology was for students with disabilities. At the intersection of the two is the social practice of special education funding for these materials, which comes from a variety of sources as mandated by federal law and case law governing special education, including federal grants and Medicaid (Hager & Smith, 2003). This social practice is part of the structure of special education at the state and national level.

The conflict in the anecdote, however, is not centered on the funding aspect of the social practice of organizational procurement, which would immediately raise the issue of the distribution of material resources. Rather, it is centered on the decision-making aspect of the practice. The districts want to know which assistive technology is 'best' to purchase. The focus of the problem, emphasized in the story by the use of scare quotes around the word 'best', is on the *quality* of the purchasing recommendation. Zabala (2000) uses scare quotes because she is

disputing the definition of 'best'. The concept of *best recommendation* is part of the decision-making aspect of procurement, in which an organization uses some kind of process to establish a need and then determine which goods or services to purchase to meet the particular need. Often this involves a bidding process and quantity discounts to reduce costs. This process is a social practice complete with its own field of research (for example, Sadrian & Yoon, 1994).

Zabala's (2000) point in this anecdote is that what assistive technology tool is 'best' depends on multiple factors she eventually identifies with the categories that form the acronym SETT, which she attributes to new colleague in the story. It is not clear how this perspective clashed with those of the new colleague or of the school districts who were asking for recommendations. But some kind of social practice seems to be involved in the expectation that the new colleague would provide a less obtuse answer than, "It depends!" One could imagine that the school district calling the center for advice was hoping to get the brand-name of one or two products that they could purchase.

What motivated school districts to call for advice on the purchasing of assistive technology in the first place was the legal mandate to consider assistive technology for students with disabilities. It was formally added to special education law in 1990, although it has been recognized as a component of the practice of special education before that date (Cook & Polgar, 2008).

As an Education Service Center, Region 4 was in a consulting role to the member districts, which turned to it for answers. One of the strategic goals listed on the organization's current web site, is "increase employee and organizational capacity" and its "core purpose" is "revolutionizing education to inspire and advance future generations" (Region 4 Educated Solutions: About Region 4, n.d.). This purpose statement text is even trademarked. According to

their website, the system of regional education centers was founded in 1965 to provide "essential

services to school districts and charts schools in the implementation of school reform and school

improvement" (Texas System of Education Service Centers, n.d.). In 1984, the centers were

directed to "raise the quality of district programs, and enhance uniformity and consistency in

district operations" (Texas System of Education Service Centers, n.d.). It is evident from this that

a significant aspect of the exchange described in Zabala's (2000) anecdote is related to the

network of social practices involved in administering education in a state as large as Texas.

Individual districts had to turn to these centers for guidance, which is what gave birth to the

SETT Framework. The framework was a way for an educational superstructure to guide

individual districts in their delivery of assistive technology. From this perspective, the SETT

Framework text is embedded in the network of administrative practice in education at a level

higher than individual districts but lower than state administration.

So far this analysis has focused on the social events that, according to the author's

account (Zabala, 2000), preceded the creation of the original 1995 SETT Framework text. But

what events surrounded the creation of the text itself? The precise origins of this text are not well

documented. The earliest published form of the text available from the Education Resources

Information Center (ERIC) archives indicates that it was a paper presented between March 2-4,

1995 at the Florida Assistive Technology Impact Conference, in relationship with the

Technology and Media Division of Council for Exceptional Children (Zabala, 1995). Another

electronic document of uncertain origin claims that the SETT Framework was first introduced in

October of 1995 the Closing the Gap Conference on the Use of Assistive Technology in Special

Education and Rehabilitation (Zabala, n.d.). However, since the author herself references the

ERIC document in her dissertation (Zabala, 2004), this appears to be a more credible source. In

any case, the first published SETT Framework text seems to have been produced for presentation at a professional conference.

Professional conferences are social events with their own network of social practices. An article called *How to Attend a Professional Conference Like a Professional* (Reynolds, 1984) identifies multiple social practices associated with conferences, including using conference materials, researching the conference location, attending the conference, volunteering, presenting, networking, job-seeking, name-badges and ribbons, selecting sessions to attend, attending the exposition and socializing with strangers! The social practices salient to the *production and distribution* (Fairclough, 1992) of the first SETT Framework text are the practices that mediate the giving of presentations. Presenting at professional conferences involves a process that usually includes submitting a presentation proposal to a selection committee in advance of the conference and receiving approval from the committee (Reynolds, 1984). The presentation can be made by one speaker or multiple speakers and there is often a visual component, such as PowerPoint slides (or transparencies on an overhead projector in earlier days).

2.   **Is the text part of a chain or network of texts?**

The SETT Framework is a chain of two documents. I have identified factors that may have influenced the production and distribution of the 1995 SETT Framework document. The origins of the 2005 SETT Framework document that is the focus of this study, however, are much less clear. I could find no published account of its creation. The fact that it is dated 10 years after the first text and is posted on the author's website indicates wider production and distribution practices than the regional conference at which the first SETT Framework was presented. As noted in the section on Text Selection in Chapter 3, the SETT Framework is now

widely known and reproduced in other documents. Most likely, the 2005 text is connected to the series of events that followed the introduction of the first text: repeated presentations at professional conferences related to assistive technology in education (for example, the Closing the Gap Conference in Minnesota, the Assistive Technology Industry Association in Florida, and the California State University Northridge Center on Disabilities International Technology and Persons with Disabilities Conference in California); conversations with practitioners around the U.S. and to some degree internationally (either in person or through the QIAT Listserv which was started by Joy Zabala); and events related to national organizations in which the author has been or is still involved such as the Quality Indicators in Assistive Technology group (Quality Indicators, 2012), the Center for Applied Special Technology (National Center, 2011), and the Technology and Media Division of the Council for Exceptional Children (Zabala, 2012).

Without taking the space to fully compare the two documents, there are several differences between them. First, the title has changed. The title of the original document was *The SETT Framework: Critical Areas to Consider When Making Informed Assistive Technology Decisions*. The title of the 2005 document is *Using the SETT Framework to Level the Learning Field for Students with Disabilities*. The metaphor used in the second title might reflect a broader awareness of the social factors that create disability. This will be discussed further in the section on textual assumptions.

Second, the very first sentence of the 1995 document refers to the assistive technology legal mandate that was added to the Individuals with Disabilities Education Act (IDEA) in 1990 (Cook & Polgar, 2008). The 2005 document, on the other hand, makes no explicit reference to a legal mandate for assistive technology in education. Assistive technology, although informally present in special education before 1990 (Cook & Polgar, 2008), was a relatively new practice in

1995 and the decision-making process regarding devices and services was still being worked out. Perhaps the legal mandate was needed to heighten urgency. By 2005, the practice of AT in education was perhaps more widely accepted as part of special education and, therefore, did not need an explicit legal justification.

Third, whereas the 1995 document referred to only assistive technology as a tool, the 2005 document describes a "system of tools" that includes "devices, services, strategies, accommodations, modifications." *Devices* and *services* are an intertextual reference to the legal definition of assistive technology in IDEA but the other phrases ("strategies, accommodations, modifications") are intertextual references to a broader range of considerations mandated in IDEA for students with disabilities. For some reason, perhaps influenced by conversations with others, the author seems to be positioning the SETT Framework as useful for more than just assistive technology.

3. **What social practice or network of social practices is referred to in the text?**

The author makes an effort to say, both in the 2005 document and in a later document, that her framework is not a protocol or even a process, but a framework that requires a process (Zabala, 2010). This seems to position the SETT Framework as a neutral entity that operates above social practice or across different social practices. The author refers specifically to the social practices of special education when she uses the following terms as examples of existing processes: referral, IEP development, implementation planning, and evaluation (Zabala, 2005, p. 3). But the 2005 document widens the context to which the framework applies. The opening paragraph acknowledges the framework's original location in special education but then positions the framework as useful for a variety of settings and purposes by saying, "the principles of the SETT Framework have been used to guide decisions about a much broader range of

educational services, and also, with minor adjustments, have been successfully used in non-educational environments and service plans" (Zabala, 2005, p. 1). The phrase *service plans* refers to the practice of adult disability services, which use an 'individual service plan' instead of an 'individual education plan'.

The 2005 document also continually refers to the *team* and its decision-making power. This term will be analyzed in the section on discourse. For now, I will note that the word *team* refers to a social practice used in special education and rehabilitation, where the term refers to a multidisciplinary team of specialists and a team-based decision-making process.

C.   **Analysis of Manifest Intertextuality**

The element of intertextuality is guided by the following questions:

- Of relevant other texts/voices, which are included, which are significantly excluded?
- Where other voices are included? [sic] Are they attributed, and if so, specifically or non specifically?
- Are attributed voices directly reported (quoted), or indirectly reported?
- How are other voices textured in relation to the authorial voice, and in relation to each other? (Fairclough, 2003, p. 192)

Intertextuality is based on the concept, developed by Bakhtin, that "all utterances, both spoken and written…are oriented retrospectively to the utterances of previous speakers…and prospectively to the anticipated utterances of the next speakers" (Fairclough, 1992, p. 101-102). Fairclough distinguishes between two types of intertextuality: *constitutive intertextuality* and *manifest intertextuality*. Constitutive intertextuality (which Fairclough also refers to as interdiscursivity) is a broad concept that encompasses the analytical categories of genre, discourse, and style—the configuration of discourse conventions that implicitly contribute to the production of text (Fairclough, 1992). Manifest intertextuality, on the other hand, is the explicit referencing of other texts using markers such as quotation marks or other cues (Fairclough,

1992). This short section of analysis is focused on manifest intertextuality. There are two types: *direct* (e.g. direct quotations) and *indirect* (e.g. reporting on what someone has said).

The only example of direct intertextuality is a quote attributed to playwright Eugene Ionesco on page 1: "It's not the answer that enlightens, but the question" (Zabala, 2005, p. 1). It is used poetically to support the idea the SETT Framework is to be viewed as a series of questions that are "expected to guide and deepen discussion" (Zabala, 2005, p. 1).

There are several examples of what might be considered indirect intertextuality in the rhetorical questions that are framed as section headings in the document:

- "What questions does the team ask in each section of the SETT Framework?"
- "How is the S-E-T Information used to think about Tools?"
- "Does use of the SETT Framework require using a specific process?"
- "What are the critical elements of using the SETT Framework?" (Zabala, 2005, p. 1-3)

These are not directly attributed to anyone since they are *textured* (Fairclough, 2003) as rhetorical questions. It could be argued, therefore, that they do not report on the voice others. However, the third question is answered conversationally in the text ("Does use of the SETT Framework require using a specific process?" "No."), suggesting, perhaps, that the author has been asked this question many times by practitioners. If this is true, then the voices reported on are those of the audience, an audience that would be physically present in the context of a professional conference and virtually present through communication media, such as the QIAT listserv. This interpretation correlates with a document posted on the author's website called *The SETT Framework: Straight from the Horse's Mouth*, in which the author (i.e. the 'horse's mouth') attempts to correct what she perceives as misconceptions (she calls them 'myths') of the SETT Framework. One of the myths the author wants to correct is that "SETT is a process." The correction is: "The SETT Framework <u>requires</u> a process, but does not dictate a particular

process" (Zabala, 2010, p. 4, original emphasis). This correlation suggests to me that the questions used as headers in the 2005 SETT Framework document are indeed indirect reporting of practitioner voices.

The SETT Framework is about disabled students and yet, significantly, their voice is excluded from the text. Disabled students are very much represented in the text, as are other actors (e.g. team members, staff, family). This representation will be analyzed in the discourse section. There are, however, neither direct quotations from disabled students nor any indirect reference to their voice although the reader is urged to include the student's perspective as part of the decision-making process—"Not only are the multiple professional perspectives important to include, but also those of the student and the parents" (Zabala, 2005, p. 3).

D.   **Analysis of Genre (Ways of Acting)**

Genres are defined as "the specifically discoursal aspect of ways of acting and interacting in the course of social events" (Fairclough, 2003, p. 65). The category of genre is guided by the following questions:

- Is the text situated within a genre chain?
- Is the text characterized by a mix of genres?
- What genres does the text draw upon, and what are their characteristics? (Fairclough, 2003, p. 191)

The specific question that links genre to action is: "What are people doing discoursally?" (Fairclough, 2003, p. 69). Given the analysis of social events, which linked the original 1995 text to a specific conference and thus to the social practice of professional conferences, the text seems to be the author's way of enacting professional development (training) for those involved in the delivery of assistive technology and other accommodations to students with disabilities. In other words, it fits into the genre that encompasses training guides and professional development materials.

The 2005 document is freely available on the author's website (www.joyzabala.com), accompanied by other documents that further develop the framework (*Ready, SETT, Go!*, *SETT and ReSETT,* and *SETT Up Staff and Supporters*) and provide forms called 'scaffolds' to support the decision-making process. The presence of these documents situates the text in a genre chain. A genre chain is best illustrated by the process that occurs when, for example, a speech from a government official is transformed into news reports about the speech (Fairclough, 2003). In the process of reporting on the speech, which is one genre, the discourse is transformed into press releases or TV news reports, which are another genre, and then perhaps further transformed by pundits in round table political analysis, a genre often seen on cable networks.

The genre chain pertinent to the SETT Framework document at hand is not as obvious as this illustration. But a process of transformation occurs between the document that explains the framework (the one analyzed in this study) and the accompanying forms ('scaffolds') that transform the SETT Framework into decision-making tools. These forms are extended ways of enacting professional development.

E.   **Analysis of Discourse (Ways of Representing)**

In the abstract sense of discourse (big 'D' Discourse), all the components of this study, from analysis of the conjuncture of social practices at the beginning to the textual analysis in this chapter, contribute to discourse analysis. This section focuses on discourse as a "particular perspective or angle or point of view" from which the social practices included in the text are represented (Fairclough, 2003, p. 128).

The specific linguistic features that link a text to discourses are: 1) vocabulary and the semantic relationships between words, including assumptions and metaphors; and 2) the way the elements of social events are represented by grammar and vocabulary (Fairclough, 2003). I will

focus on the first set of features through a close analysis of assumptions related to the key words in the SETT acronym. This analysis will include some examination of metaphor, particularly the metaphor used in the in title of the document. I will focus on the second set of features by using van Leeuwen's techniques for analysis of the recontextualization of the social actor.

1. **<u>Analysis of assumptions</u>**

Assumptions are unavoidable. As Fairclough puts it, "no form of social communication or interaction is conceivable without…'common ground'" (2003, p. 55). However, "the capacity to exercise social power, domination and hegemony includes the capacity to shape to some significant degree the nature and content of this 'common ground'" (2003, p. 55). In other words, it is not only what is spoken that has the power to shape discourse but also what is unspoken.

Fairclough identifies three types of assumption (presupposition):

- Existential assumptions: assumptions about what exists.
- Propositional or factual assumptions: assumptions about what is or can be or will be the case.
- Value assumptions: assumptions about what is good or desirable. (2003, p. 55)

The guiding question is simply: "What existential, propositional or value assumptions are made in the text?" (Fairclough, 2003, p. 192) This question seems too broad to me, though, so I will narrow the focus by asking: What assumptions in the text create obstacles to addressing the social wrong? I will use the four words in the SETT acronym to frame my analysis, since they ultimately represent the essential components of the framework.

The first word in the acronym (Student) is highly relevant to analysis from the point of view of the social wrong. As identified in the analysis of the social events that produced the text, "Student" is understood to be a student with a disability because AT in education is embedded in the social practice and structure of special education by virtue of the legal mandate that defines

assistive technology as applying only to students with disabilities. This means that some

conception of disability is assumed by the text whenever the student is mentioned and these

assumptions need to be analyzed.

The second word in the acronym (Environment) is also highly significant in relation to

the social wrong because it implies that which is outside of the person, the built environment. In

the social model of disability, this is the target of change. However, by itself, the word

environment is vague, carrying with it various connotations and assumptions. It is defined to

some degree in the SETT Framework text, so what is said can be analyzed. But it is also

important to consider what is not said, so that what is said can be seen against the background of

has been said in the 'world of texts' outside it (Fairclough, 2003).

The third word in the acronym (Task) is perhaps less obviously relevant in terms of the

social wrong. However, because the SETT Framework is embedded in the social practices of

education and special education, it carries some assumptions that need to be explored.

The fourth word (Tools) refers, in this context, to specific assistive technology devices

and services and is therefore the least significant of the four words in terms of the social wrong.

Disability activists, such as Simi Linton and Kenny Fries, have written favorably about assistive

technology. The devices themselves are not generally considered to be part of the disablement

process although the practices that control access to them can be (Litvak & Enders, 2001).

Nevertheless, the specific choice of the word "tool" to represent AT devices in the acronym is

interesting and carries some assumptions that are relevant to the social wrong.

    a. **<u>"Student"</u>**

Some form of the word 'student' occurs 32 times in the document. Only

twice, once in the title and once in the first paragraph, is the student identified as having a

disability ("students with disabilities"). All the other instances refer to the student without qualification. This is helpful as a discursive tactic to get past the exclusionary practice of identifying a subset of students as disabled (see Graham & Slee, 2008 for analysis of the discursive aspect of exclusion). However, this may not avoid the assumption that, within the social practice in which the SETT Framework is used, the student is disabled.

To analyze the assumptions connected to the word 'student', I extracted from the text 36 phrases that use the word 'student' or are directly connected to the word. I identified the assumption associated with each phrase, then categorized the assumptions using Fairclough's three categories (existential, propositional/factual, and value).

I then added one more category to identify whether I thought the assumption was associated with *Any Student*, *Students with Disabilities*, or a mixture (*Mixed*). I used these categories because they focus the analysis on how difference is handled in the text. Fairclough suggests that "orientation to difference is fundamental to social interaction" (Fairclough, 2003, p. 41) and therefore is an important category of textual analysis. He lists five positions relative to the presence of difference:

1. An openness to, acceptance of, recognition of difference; an exploration of difference, as in 'dialogue' in the richest sense of the term;
2. An accentuation of difference, conflict, polemic, a struggle over meaning, norms, power;
3. An attempt to resolve or overcome difference;
4. A bracketing of difference, a focus on commonality, solidarity;
5. Consensus, a normalization and acceptance of differences of power which brackets or suppresses differences of meaning and norms. (Fairclough, 2003, p. 41)

There are tensions in applying this taxonomy to disability. Impairment is the source of difference. The question is what to do with it in order to overcome the obstacles to the social wrong, the exclusion of difference. Several of these positions can be used to this end. The

political aim of the social model seems to be aligned with position three or four in that, by overcoming the socially constructed barriers which disable people, disability is removed and the disabled (excluded) become people (included). On the other hand, identity politics and the minority model of disability seem to be aligned with positions one and two. Impairment as difference is celebrated. The accentuation of difference is used as a tool to probe assumptions of normality in order to expand the openness to and acceptance of difference. Of course, the emancipatory aim of the social model also engages in the struggle over power. Both approaches reject position five in which power differences are accepted because this is understood to be the cause of the unequal and unfair treatment of disabled people.

In creating my categories, I was aware that the creation of categories for analysis was a discursive process in itself that carried its own ideology. I wanted categories for analysis that were aligned with the stated goal of finding obstacles to the social wrong, defined in the introduction as the medical/individual model of disability. I also wanted categories that reflected the social practices in which the SETT Framework document is embedded. For this reason, I created the binary categories of Any Student and Students with Disabilities. The first contains assumptions that society makes of any student in the education system. In other words, they are assumptions that do not differentiate between regular education and special education. The second contains assumptions about the subcategory of students explicitly identified as disabled in the text or students implicitly identified as disabled by the discourse associated with the practice of special education.

And yet, mindful that more recent debate has critiqued the social model for ignoring the body, I did not want to create categories that suppressed difference altogether. For this reason, I created the Mixed category. This category contains the assumptions that could apply to Any

Student or might specifically apply to Students with Disabilities, depending on interpretation. The interpretation depends on the shifting orders of discourse. Within the social practice of special education, most of the phrases in the Mixed category probably refer to students with disabilities. However, within the wider discourse of education, the phrases could refer to any student.

The specific results of this analysis are detailed in the spreadsheet shown in Table V, Appendix A. Using a pivot table to summarize the results, I found that 14 phrases connected to the word *student* implied assumptions that could be made about Any Student, 12 phrases implied assumptions that seemed to refer specifically to Students with Disabilities (two cases do explicitly), and 10 phrases implied assumptions I categorized as Mixed.

The assumptions that could be made about Any Student within the general education system included following:

Existential assumptions:

- Student has interests and preferences.

- Student has abilities.

Factual assumptions:

- Student spends time in different environments.

- Student will grow in competence, confidence and independence.

- Students are required to do tasks.

- Student is surrounded by people who provide support.

Value assumptions:

- Student achieves.

- Student builds competency.

- Student is an active participant.

- Student will succeed with the help of education professionals.

- Student is the "center" of the education system.

The assumptions that explicitly or implicitly refer to Students with Disabilities included the following:

Existential assumptions:

- Student has special needs.

- Student with disabilities is not on a "level learning field."

- Student achievement is blocked by barriers.

Factual assumptions:

- Student may not make reasonable process toward educational goals.

- Student cannot do (or has great difficulty doing) some tasks.

- Student's ability needs to be enhanced.

- Student "functioning" is of concern to adults.

Value assumption:

- Student (with parents and professionals) should rejoice at increased opportunities for success.

The assumptions that seemed to refer to Any Student but might, within the discourse of special education, refer to Students with Disabilities (the Mixed category) included the following:

Existential assumptions:

- Student has "natural" environments.

- Student has needs, abilities, and interests.

- Student has "current" abilities.

Factual assumptions:

- Student cannot gather information on their needs (adults need to do it).

- Student needs support in order to achieve.

- Student is the locus of "expectations and concerns."

Value assumptions:

- Student is best understood by a team rather than just one person.

- Student's perspective is important to include.

It seems to me that the author has made a considerable effort to focus on commonalities since more than a third of these assumptions could be made about any student even though assistive technology applies, by definition, only to students with disabilities. This seems to align with position four in the taxonomy of orientation to difference (bracketing of difference, a focus on commonality, solidarity). It is not surprising that a third of the assumptions do refer to students with disabilities since, as just noted, they are the only category of students for whom assistive technology must legally be considered. Most of the assumptions about this category of students locate disability in the person. However, there are two obvious exceptions: 1) the student with disabilities is not on a "level learning field," and 2) the student's achievement is blocked by barriers.

The first exception is from the title of the document and is a metaphor based on the more common expression, "level the playing field." The meaning of this expression is easily found on numerous web sites if typed into an Internet search engine. It refers, of course, to treating everyone equally and evokes the image of a ball field that does not slope advantageously toward one end. The metaphor very strongly implies a concept of fairness shaped by external factors.

Applied to students with disabilities, it aligns well with the social model, which emphasizes the exterior cause of disability. Positioned as it is in the title of the document, this metaphor seems to strongly convey an active position toward difference, aligned perhaps with position three above (an attempt to overcome difference), or maybe even position two (an accentuation of difference and the struggle over norms and power). However, this position is not followed in the rest of the document as evidenced by the rest of the assumptions about the student that either seek commonality or locate disability in the person.

The second exception to locating disability in the person ("student achievement is blocked by barriers") is also a metaphor, evoking images of concrete barriers on a roadway (imposed by social agents) or natural barriers, such as a mountain range without a pass (imposed by nature). The implication, as with the first metaphor, is that the barriers might be external but it seems to me that ambiguity as to the source of the barriers is possible within the context of special education. In the context of the social model of disability, the metaphor strongly suggests barriers imposed by social structure and social practice. However, absent this perspective, barriers can be viewed as caused by nature. In other words, the barriers to student achievement could be understood as the student's own body and the lack of function that results from impairment when disability is viewed through the lens of the medical/individual model. I do not know which assumption the author intended, although the metaphor in the title hints at a social model interpretation. However, I would suggest that, since the practice of assistive technology in education is currently located almost exclusively in the practice of special education, this assumption might not be shared by readers working within special education. A additional study would be needed to provide empirical evidence of reader interpretation of this metaphor, but the "scaffold" forms that are linked in a genre chain with this document on the author's website

provide some evidence of the author's interpretation. In the form titled "SETT Scaffold for Implementation and Evaluation of Effectiveness Planning," the following wording is used: "Identify assistive technology tools to be used (or tried) to remove barriers to performance and enhance the student's ability to develop targeted skills within the activities" (Zabala & Korsten, 2005). The context of these sentences suggests that barriers are viewed as located within the student because they are specifically tied to the performance of skills and the student's ability.

A third, perhaps less obvious, exception to locating disability in the person is the factual assumption that the "student may not make reasonable progress toward educational goals." I think this assumption is probably rooted in *impairment effects* (Thomas, 2007) but it could refer to the result of external barriers. The rest of the factual assumptions, however, seem to more strongly locate disability in the person, especially the use of the word "functional" because of its strong connection to the medical model of disability (use of the term in this document is very likely influenced by the legal definition of assistive technology, which defines AT as that which is used to increase 'functional capabilities'). These assumptions are not necessarily problematic, given the contested sociological theories of disability discussed in the introduction. An interactionist or biopsychosocial model, such as the ICF, acknowledges the presence of impairment effects or that disability is partly located in the body (Tom Shakespeare's language). What would be problematic is a complete lack of acknowledgement and investigation of externally located barriers. This document does contain one clear acknowledgement of external barriers, the metaphor in the title. The question is, is it strong enough?

I now turn to the 10 assumptions that I categorized as Mixed. These assumptions could apply to any student but also contain signals that, within the context of special education, imply students with disabilities. The signal word is "need" because it is closely associated with the

much discussed phrases *special need* and *special educational needs* (Slee, 1997). Interestingly, the author avoids putting the word *special* next to the word *need* in this document except in two instances, which I did not put in the Mixed category (these are the only two instances of the word *special* in the whole document). The first instance occurs under the heading "The Student" in a bullet point that is meant to be understood as an area the school team should investigate about the student (specifically, as "related to area of concern"). The second instance occurs at the end of the sentence, "support for staff that helps them develop and sustain learning environments that are inviting, challenging, and productive for ALL students, including those with the full range of abilities and special needs" (Zabala, 2005, p. 2). The term *special needs*, as used in this sentence, locates disability in the person and creates a contrast with students who have a "full range of abilities."

The question for analysis is: Does the author's avoidance of *special* as an adjective for *need* help remove an obstacle to addressing the social wrong? I believe this is the author's intent. Full analysis of this question is beyond the scope of this study because it would require analysis of reader interpretation, the consumption aspect of texts, which Jørgensen and Phillips (2002) identify as a weakness of Fairclough's approach to CDA. However, Fairclough's view is that texts are dialectically related to social practice and social events. This means that, when this text of the SETT Framework is used within the current practice of special education (where it is predominantly located because of the structural/legal position of assistive technology), the word *needs* will mostly likely be interpreted as *special needs*. In other words, within the order of discourse that produced this text and within which it is consumed, alternative interpretations to the word *need* are scarce. Therefore, the word *need* is not neutral, although all students have needs of one kind or another (e.g. the need to belong, the need to feel loved).

The other assumptions I put in the Mixed category have similar properties. Some of them are assumptions about properties of the student. For example, any student could be assumed to have a "natural" environment (I will examine the issue of environment in the next section), to have "current abilities," and to "need support in order to achieve." However, within the practice of special education, these phrases seem to signal qualities unique to students with disabilities. Other assumptions are better described as adult assumptions about students rather than assumptions about the properties of the student. These assumptions, such as "student needs should not be determined by one person because a shared understanding is better," or that the adults have "expectations and concerns" about the student, could be made of any student. But again, within the practice of special education, they seem to signal factual and value assumptions that apply to students with disabilities more specifically.

I will say more about the issue of how the student is represented by adults in the analysis of discourse and recontextualization. For now, I will summarize this section of analysis by concluding that the textual assumptions in this document about the student are overall a mixed bag. Although the student in the title is a person disabled by external factors, the student in the body of the document is a mixture of generic assumptions about any student and special education assumptions about disabled students (i.e. disability is located in the person). The mixture contributes to the inclusive recontextualization of the student but does not, in my opinion, work strongly to remove obstacles to the social wrong given that the text is situated in the social practice and current social structure of special education.

        b.   **<u>"Environment"</u>**

Some form of the word *environment* occurs 19 times in the document, although I included in my analysis four phrases that indirectly referred to environment. To

analyze the assumptions behind the word, I used the same methodology as with the word *student* to extract, comment on, and categorize the assumptions. I continue to identify the type of assumption (existential, factual, value) and then, as with the word *student*, I added another category of analysis pertinent to identifying obstacles to the social wrong, identified previously as the medical model of disability.

The main problem with the medical model, as critiqued by the social model, is directly related to the duality of person and environment. If the main question for analysis is, "Where is disability located?", then analysis of the word *environment* has to be paired with analysis of the *student*. The social model in its strongest form locates disability entirely in the environment, which is understood to be socially constructed and therefore ideological. Interactionist or biopsychosocial models of disability locate disability partly in the environment. As noted in the previous section and in the introduction, scholars such as Carol Thomas reserve the word *disability* for environmental/structural effects whereas others, such as Tom Shakespeare, avoid this distinction. Regardless, what is essential to overcoming obstacles to the social wrong is acknowledgement that the socially constructed environment is at least partially responsible for disablement. Acknowledgement is too soft a word, given the political will needed to change disabling environments. However, I will use it as the minimum criteria.

The categories of analysis I created for analysis of the word *environment* are: 1) *Active*, 2) *Neutral*, and 3) *Mixed*. By Active, I mean assumptions about the environment that recognize the active construction of the environment by social agents, social practice and social structure. By Neutral, I mean assumptions that position the environment as neutral, as a given fact, rather than the product of socially constructed choices. From the point of view of the social wrong, these assumptions are not neutral since they contribute to the social wrong. But as a category of

analysis, I am using the label Neutral to refer to how the environment is understood. This use of

the word *environment* might be, in several cases, merely a homonym for the word *setting*, which

seems to me to carry a more neutral tone. I again used a category called Mixed to label

assumptions about the environment that could be open to interpretation.

The results of this specific analysis are detailed in the spreadsheet shown in Table VI,

Appendix A. Using a pivot table to summarize the results, I found seven phrases connected to

assumptions that positioned the environment as active, eight phrases connected to assumptions

that positioned the environment as neutral, and seven phrases that could be described as mixed. It

is interesting that the analysis of *student* resulted in the same pattern of approximately one third

of the total in each category.

All of the assumptions that position the environment as Active, I classified as factual:

- Environment is instructionally and physically arranged.

- Environment includes materials and equipment with assumptions of common usage.

- Environment includes social agents and their attitudes and expectations.

- Environment will present access problems for the student.

- Environment needs to be controlled by the student.

The assumptions that positioned the environment as Neutral involve the three types of

assumption.

Existential assumptions:

- Environments are like settings: each student can be in multiple environments and

    there are non-educational environments where assistive technology is relevant.

Factual assumptions:

- Environments have details that can be described.

- Environments are associated with specific sets of tasks (activities).

- Environments are associated with specific processes.

Value assumption:

- Tools should fit the environment.

The assumptions that positioned the environment as Mixed (neither neutral nor active) also included the three types of assumption.

Existential assumptions:

- The category "Environment" is important to analyze.

- Some environments are "natural" or "customary."

Factual assumption:

- Environments have particular challenges and agents who facilitate them.

Value Assumptions:

- The environment should be explored and considered.

- The environment is best understood by a team rather than just one person.

The SETT Framework does contain an acknowledgement of the disabling effects of the environment. One third of the assumptions acknowledge this. Therefore, the "Environment" category of the SETT Framework might indirectly help to address the social wrong—indirectly because the language used does not make explicit the need for the social change necessary to reduce the disabling effects of the environment. However, the effect could only be mild because just one third of the assumptions make the environment contingent on social structures, social practices and social agents.

The assumptions I categorized as Neutral, although they do not address the social wrong, do not seem to pose much of an obstacle to overcoming the social wrong because they refer to

the student, the task, or the tool within different environments or settings. In other words, these more neutral assumptions position the environment as a descriptive property of the other elements of the SETT Framework. That students, tasks, and specific processes occur in different environments (understood as settings) is not generally contested.

The assumptions I categorized as Mixed do not make explicit the socially constructed nature of the environment and therefore do not lend themselves to the political actions necessary to change the environment. One of these assumptions, that there are "natural" or "customary" environments for students, might constitute an obstacle to addressing the social wrong because it could be associated with the naturalization process of hegemonic ideology (Fairclough, 1992, p. 92). I will, therefore, analyze it more closely.

There are three instances of the word "natural" in the document: twice in connection to environment and once in connection to tasks. (I will analyze the connection to "tasks" in the next section.) The first sentence occurs early in the document. The next two sentences occur on the second page, after the author has already introduced the "environment" as a category and listed bulleted questions related to it. Here are the three instances from the text:

- The *customary* environments in which the student spends time…
- What SPECIFIC tasks occur in the student's *natural* environments that enable progress toward mastery of IEP goals and objectives?
- Select the most promising Tools for trials in the *natural* environments. (Zabala, 2005, p. 1-2, emphasis added)

Given that the word *environment* is used 19 times in the document, modifying it with "customary" or "natural" only three times seems a bit random. The phrase "customary environments" seems to imply the most frequented environments. In other words, the author might simply be suggesting that there is no practical need to examine the environments (settings) not frequently visited by the student. Does the word *natural* imply the same thing? Within the

context of the sentences in which it occurs, it might imply that the tasks to be described should

not refer to environments in which you would not naturally find students and the device trials to

be conducted should not take place in environments unnatural to students. But what is an

unnatural environment for students?

To answer this, I will go back up to the level of social structure and social practice, and to

the specific conjuncture of practices in which this document is situated. In the theorization

section at the beginning of this study, I identified special education and assistive technology as

the conjuncture of social practices relevant to the SETT Framework text. However, I noted that

assistive technology is also part of the field of rehabilitation, a practice often located in hospitals

and clinics. Given this structural view, I think that the phrase "natural environments" in the

SETT Framework text refers to the idea that the information gathering process should not take

place in a clinic, where the student is removed from the environments in which she or he

functions as student. In this interpretation, an unnatural environment would be a clinic, where the

child, no longer functioning as student, is brought under the medical gaze (to use a Foucaultian

trope from disability studies) in order to assess his or her need for assistive technology.

This conclusion is actually supported intertextually by a quote that comes from a

textbook usually associated with the rehabilitation field, *Cook & Hussey's Assistive

Technologies: Principles and Practice* (2008). The authors write: "Assessment of the physical

environment for selection or evaluation of assistive technology begins with the activities the

person wants or needs to do and *in which environments those activities will be performed*" (Cook

& Polgar, 2008, p. 41, emphasis added). So, even in the rehabilitation field, doing the assessment

in the person's natural environment is considered best practice. However, the wording used by

Cook and Polgar to convey this meaning is much less ambiguous than the wording found in the

SETT Framework text where the word *natural* leaves open the possibility of assuming that the school environment is natural (a product of nature and therefore a given) rather than socially created (and therefore contingent). This is a possibility if the reader does not recognize (and many educators do not) that assistive technology is also practiced in clinical settings as part of rehabilitation. This assumption could create an obstacle to addressing the social wrong in that it tends to construct the environment as neutral rather than as a potential source of disability. I do not think this assumption is intended in the SETT document, however, the ambiguity in relation to the word *environment* is not helpful.

       c.   **"Tasks"**

The word *task* or *tasks* occurs 12 times in the document. In my analysis of the word, I included one other phrase that implied *tasks* and I analyzed one occurrence of *tasks* two different ways, for a total of 14 units of analysis. As with *student* and *environment*, I extracted each occurrence and categorized the type of assumption. I did not add an additional category of analysis for the word *tasks*, however. This is because, unlike the previous two words, no further analysis is needed to connect the word *task* to theorization of the social wrong.

Before analyzing the textual assumptions associated with individual occurrences of the word *tasks* in the SETT Framework, I want to do a bird's eye analysis of what the word *tasks* means in the context of the whole text. Fairclough describes analysis of word meaning as one component of textual analysis, noting that "words typically have various meanings, and meanings are typically 'worded' in various ways" (1992, p. 185). He goes on to say,

> This means that as producers we are always faced with choices about how to use a word and how to word a meaning, and as interpreters we are always faced with decisions about how to interpret the choices producers have made (what values to place upon them). These choices and decisions are not of a purely individual nature: the meanings of words and the wording of meanings are matters which are socially variable and socially contested, and facets of wider social and cultural processes. (1992, p. 185)

What production decisions were involved in the use of the word *tasks* in the SETT Framework? One decision might be related to the SETT acronym itself. Since the author chose the word *tasks* to build the acronym SETT, the word *tasks* needed to be used repeatedly throughout the document as the label or container for the category of analysis it represents. This interpretation is based on my analysis of the social events which produced the text, namely, the fact that it originated as a teaching tool for conference workshops. In producing a tool (the author says in the first sentence, "The SETT Framework is a tool…"), it would have been necessary to reinforce the meaning of the acronym by consistently using the word *tasks* to represent the general category of *actions performed by the student*.

There is another word. Cook and Polgar, in their HAAT framework, use the word *activity* instead of *task*. They consider the word *activity* to represent a broader element and note that "activities can be broken down into smaller tasks" (2008, p. 38). This is a common understanding in education too, where there is a process known as *task-analysis*, which refers to dividing a larger activity into smaller and smaller component tasks in order to discover where a performance breakdown is occurring for a student. However, because of the pedagogical constraints on production noted above, I interpret the word *tasks* in the SETT Framework text to be representative of the broader category that Cook and Polgar define as the "process of doing something" (2008, p. 37). I note that, in all but one of the 12 occurrences of the word, it is pluralized, which signifies an aggregate category. I do not think there is significant contestation about the boundaries between *tasks* and *activities* (Fairclough, 1992). The choice seems to be a matter of expediency for the learning process. It allowed the author to double the T at the end of the acronym, thus making the pronunciation more crisp (it would be SETA if *activity* was used

instead of *task*) and perhaps more memorable—although this assumption is contested by Socol who, as a self-described dyslexic, finds misspelled acronyms annoying (2011, January 5).

Now for the analysis of the specific assumptions associated with the word *tasks* in the document. I found one existential assumption, seven factual assumptions and six value assumptions. The detailed results of this analysis are available in Table VII, Appendix A. The following is a summarization.

I classified the following assumption as existential:

- Tasks are a natural part of living and learning in this world.

I classified the following assumptions as factual:

- Tasks are required of students (i.e. not a choice), and some of them are difficult or impossible to do.

- Tasks are directed toward IEP goals or active involvement in different environments.

- Tasks require the student to build competency.

- Insufficient analysis of tasks might lead to tool systems that don't work.

- Tasks are in relationship with student "needs and abilities."

I classified the following assumptions as values:

- Tasks are an important element of consideration in developing a system of tools.

- Tasks are for active participation in the learning process.

- Tasks are best understood by a team rather than just one person.

I think the best way to analyze these specific details in terms of whether they present an obstacle to the social wrong is by honing in on the one existential assumption. This assumption appears in the last sentence of the document:

> Instead, students, parents, and professionals should all rejoice at the increased opportunities for success which come when Tools - devices, services, strategies,

accommodations, modification, training, etc. - are well matched to the student's needs and abilities to perform the *natural* tasks which are part of living and learning in this world. (Zabala, 2005, p. 4, emphasis added)

Here we have the third occurrence of the word *natural* in the document. The other two occurrences modified *environment* and were analyzed in the last section. This time, the word modifies *tasks*, and the meaning of *tasks* is broadened here, at the end of the document, to include "living and learning in this world." The SETT Framework now includes not only educational tasks but also the tasks of living, often called the *Activities of Daily Living* in allied health fields, such as occupational therapy. This is not unusual as special education includes services from professionals in the allied health fields, although the phrase "in this world" seems to suggest more than just educational settings.

The important question for analysis, though, is the meaning of *natural* as a modifier for *tasks*. Does it mean *non-clinical* as I interpreted it in the last section? Or does it carry ableist assumptions about the nature of the world? It is probably not an ableist assumption to say that living in the world requires the performance of tasks or activities, but even an official document from the American Occupational Therapy Association acknowledges that "activities…[are] given value and meaning by individuals and a culture" (Law, Polatajko, Baptiste & Townsend, 1997, as quoted in American Occupational Therapy Association, 2002, p. 610). In other words, the fact that tasks are required for living might be natural but the tasks themselves are not necessarily natural because they are contingent on the demands of the socially constructed context or environment rather than existing as immutable elements of the world. The point is that what is natural in one context may not be natural in the next or may not be natural in the future.

The reason for going down this path is that part of the theorization used to construct the object of research in this study is summarized by Len Barton's question: inclusion into what? This question probes the construction of the education system itself instead of assuming that it is

neutral. Used within the context of education, the SETT Framework relies on social practice to answer the first question under the *student* category in the text: "What does the student need to be able to do that is difficult or impossible to do independently at this time?" At issue, from the critical point of view, is who decides what the student needs to be able to do. The SETT Framework does not lead teams to question the relevancy or legitimacy of the tasks as it gathers information. Therefore, I think the use of the word *natural* to modify *tasks* presents an obstacle because what is natural is generally not open to discussion.

Ironically, the use of assistive technology sometimes opens this discussion anyway because of its perceived powers to enhance a student's ability or because it allows the student to bypass a task. Technological enhancement of the body does not usually cause anxiety because the disabled student's ability is perceived to be deficient in comparison to able-bodied norms (Moser, 2000). Uncommonly, as in the case of the Olympic athlete Oscar Pistorius, the use of technology as enhancement can cross the line and raise anxieties about what we define as natural (Swartz & Watermeyer, 2008). It is not uncommon for assistive technology to allow a student to bypass a task, however. Consider the use of text-to-speech software with digital text. It is designed to provide access to written material through listening comprehension, bypassing the task of reading decoding. But reading decoding is a literacy task that is highly valued in educational practice and any of use technology that sidesteps the need to decode letters and symbols visually begins to question what is natural or normal.

d. **"Tools"**

Some form of the word *tool* occurs 22 times in the document. It is the last word of the acronym SETT and this placement is deliberate because the other three categories are designed to inform decisions made about tools. In a sense, the word *tool* is the most

significant of the four words that constitute the SETT Framework because it is the reason for the framework.

Before discussing analysis of the word *tool*, it is important to determine its definitional boundaries because, in many cases, the author wants the reader to understand *tool* in several ways. In the context of the SETT Framework, the word *tool* is generally understood to refer to an assistive technology device. This was its definition in the original 1995 text. But in this text, the author tries to broaden the definition. Here are some of the definitional statements the author uses in the document. They are a combination of direct quotes and indirect paraphrases.

1) "Tools include devices, services, strategies, training, accommodations, modifications - everything that is needed to help the student succeed" (Zabala, 2005, p. 2).

2) "Some parts of the Tool system address the specific needs of the student while parts of the Tool system may more specifically address issues in the Environments" (Zabala, 2005, p. 2).

3) Tools include the concept of a "range of tools that can be used to support student achievement" (Zabala, 2005, p. 4).

4) Tools include the concept of "a system of tools" (Zabala, 2005, p. 1).

5) There is a specific time to talk about Tools in the decision-making process.

6) Tools include the concept of being "matched to the student's needs and abilities" (Zabala, 2005, p. 4).

Each of these definitional statements makes intertextual assumptions. In other words, they refer to other texts without explicitly quoting them or reporting on them. Here is a list of those embedded in just the first three statements above, with references to outside sources that demonstrate the intertextuality of these assumptions:

1) Devices and services are part of the legal definition of assistive technology (Individuals with Disabilities Education Improvement Act of 2004)

2) Training is a legally mandated assistive technology service (Individuals with Disabilities Education Improvement Act of 2004)

3) Strategies are an important component of assistive technology training (Bowser, 2003)

4) Accommodations and modifications are a legally mandated component of IEPs (Individuals with Disabilities Education Improvement Act of 2004)

5) Assistive technology is an interface between the person and the environment (Litvak & Enders, 2001)

6) Assistive technology includes a range of devices from low tech to high tech (Castellani, 2005)

The last three statements above seem to incorporate the author's concept of a system of tools. However, because of the chain between this text and the original 1995 SETT Framework text, the definition of *tools*, even in this text, seems to lean heavily toward assistive technology. Most of the definitional assumptions listed above are directly related to assistive technology. So, even though *tools* might include strategies, training, accommodations, and modifications, I am limiting my analysis of the word *tool* to the scope of the original framework, in which *tool* specifically referred to assistive technology devices.

In addition to the definitional statements about the word *tools*, I identified seven factual and five value assumptions related to the tools or system of tools. The complete analysis is shown in Table VIII, Appendix A. Summarized slightly, they are:

Factual assumptions:

- The system of tools can be described.

- Brainstorming by a team will produce a list of possible tools, some of which will be more "promising" than others.

- Tools will be used in certain locations and at certain times.

- The purpose of the system of tools is to support student achievement.

- Abandonment or under-implementation of tools is a problem.

Value assumptions:

- Tools are important for students with disabilities.

- Tools should be student-centered, environmentally-useful and task-focused.

- Tools can enhance student ability.

- People supporting the student need to understand the relevancy of the tools.

Some of these assumptions are intertextually related to other texts. The issue of device abandonment, for example, has been a major focus of AT research (Cook & Polgar, 2008). Others are part of the general discourse about assistive technology. The bulk of assistive technology research, for example, is devoted to investigating the effectiveness of assistive technology because "the entire assistive technology industry is evaluated by the success of service delivery and assistive technology system use by the consumer" (Cook & Polgar, 2008, p. 118). None of the assumptions seem to pose an obstacle to addressing the social wrong. In fact, as has been noted before, writers and scholars within the disability studies community speak positively about the use of assistive technology. However, as was acknowledged in the introductory theorization, assistive technology is an individualized solution. Within an interactionist model of disability, such as the ICF, individual solutions are not barriers to social change. But neither are they a solution to the social cause of disability. Assistive technology

tools might remove the disabling effects of the environment[1], but they do this for only one person. Another concept, Universal Design, is needed to address the wider scope of environmental barriers that can be removed by technology and design.

2. **<u>Analysis of recontextualization</u>**

In the previous analysis, I have examined how the text is interdiscursively in relationship with the social events that produced it, the manifest intertextuality that it contains, the way it acts as a genre and the assumptions that underly its representations. This section analyzes the recontextualization of the student into the SETT Framework using tools suggested by Theo van Leeuwen (2008). He states that different transformations take place when a social practice is recontextualized, including the following:

1) Substitutions of elements of the actual social practice with semiotic elements.

2) Deletions of elements of the social practice.

3) Rearrangements of elements of the social practice.

4) Additions of elements of the social practice. (van Leeuwen, 2008)

An important category of analysis is the social actor. This is because social practice always involves participants in certain roles (van Leeuwen, 2008). The important actor in this study is the student. How is the student represented or recontextualized in the SETT Framework in relation to other actors? I analyzed this question by extracting every reference to social actors found in the text. Next, I used van Leeuwen's taxonomy to categorize the actors as included or excluded. If they were excluded, I categorized them as suppressed or backgrounded. If they were

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[1] This is explicitly acknowledged in the SETT text: "Some parts of the Tool system address the specific needs of the student while parts of the Tool system may more specifically address issues in the Environments" (Zabala, 2005, p. 2)

included, I categorized them as activated or passivated. If they were passivated, I categorized

them as subjected or beneficialized. I will explain these terms.

Van Leeuwen (2008) describes his taxonomy as a sociosemantic inventory of the ways

social actors can be represented. In other words, the taxonomy is a combination of linguistic

features and socially significant elements, such as agency. The category of exclusion/inclusion

refers to whether actions presented in the text include or exclude the actor. Excluded actors are

either suppressed, meaning there is no reference to them anywhere in the text, or they are

backgrounded, meaning they are referred to elsewhere in the text. Included actors are represented

in relation to an action and may be either activated, meaning they are represented as the agent of

an action, or passivated, meaning they are represented as the goal of an action. Passivated actors

can either be subjected to the action, meaning they are treated as objects, or they can be

beneficialized, meaning they benefit from the action (van Leeuwen, 2008).

Based on my analysis of the assumptions related to the word student, I interpreted all

references to the *student* or *students* as students with disabilities unless the context made it clear

that the author was referring to all students or nondisabled students. In my analysis, I also had to

interpret excluded references so that I could identify an actor. Most of the excluded references

were backgrounded exclusions of the *team* because the entire framework is presented as a

process for the team to use. I did, however, interpret a few suppressed exclusions, using my own

experience of the social practice to inform my interpretations.

A summary of the results of this analysis are shown in TABLE III. The complete analysis

on which this table is based is found in Table IX, Appendix B. I found 34 references that were

related to the disabled student, but two of them were just used as labels (no action was relevant).

Of the 32 references to the disabled student as a social actor, only seven were backgrounded. The

disabled student was specifically included the rest of the time but was passivated 14 times. The student was represented both as the beneficiary and the subject of actions related to the decision-making process. This makes sense because the SETT Framework is meant to be a model for the delivery of assistive technology to students within a specific process, generally the special education process in the case of children between ages three and 21. Of the 11 references in which the student was activated, only six of them indicated active participation. Four references used nominalized verbs, which tends to background agency (van Leeuwen, 2008), and one was an imperative ("should all rejoice") from the author rather than a participatory action.

TABLE III

REPRESENTATION OF SOCIAL ACTORS

| | Excluded | | Included | | |
| | | | | Passivated | |
	Suppressed	Backgrounded	Activated	Subjected	Beneficialized
Disabled Students		7	11	7	6
Team		41	11	2	2
SETT Framework			3		
Educational System	3				

The *team*, in contrast, was referenced 56 times. The team was interestingly backgrounded most of the time, which is partly a result of how the text's genre is acting as a professional development tool. It was clear, though, from the 11 instances in which the team was activated, that they were the intended actors in the 41 backgrounded references. The team was only passivated 4 times.

Several times the social actor seemed to be either the educational system or the SETT Framework itself. I interpreted 3 references to "tasks required" as implying the educational system (e.g. "the specific tasks required of students"). In these cases, the text suppresses the actors who require the student to do certain tasks although, of course, these requirements are the product of active decisions made somewhere by somebody. In contrast, the SETT Framework, which is not a human actor, was activated in sentences such as "The SETT Framework supports…" (Zabala, 2005, p. 4) and "The SETT Framework is a tool that both requires and supports…" (Zabala, 2005, p. 3). This seems to reinforce the inevitability of the process itself rather than the people who enact it.

These results are significant in terms of the social wrong because they recontextualize the student as the passive beneficiary of a decision-making process that is led by the team. Located in the social practice of special education, the team consists of the special education professionals (special education teacher, occupational therapist, physical therapist, psychologist, social worker, speech language pathologist, etc.), who, together with the parents, make decisions in the context of an IEP meeting. It is not necessarily a problem that adults are making decisions for the good of a child. In my opinion, this is an important element of parenting—a responsibility which is to some extent delegated to adults employed by the school system (the *in loco parentis* doctrine). However, in terms of a sociological theorization of disability that questions the

professional dominance of the lives of people with disabilities, the fact that the disabled student

is recontextualized as passive in the SETT Framework is not helpful for addressing the social

wrong.

In addition to the analysis of role allocation in the document, I did a second analysis

based on van Leeuwen's technique for examining the representation of social action. This was

different from the first analysis in that, instead of extracting the actors and linking them to

actions, I extracted all the actions and reactions (a type of process action) (van Leeuwen 2008)

from the document and identified the social actor. Because I extracted actions at a detailed level,

including both active and nominalized verbs and processes, this analysis resulted in a higher

number of actors than the first analysis. Using van Leeuwen's taxonomy, I categorized the

actions as *activated* or *deactivated.* Activated actions and reactions are represented dynamically

whereas deactivation represents actions and reactions "statically, as though they were entities or

qualities rather than dynamic processes" (Van Leeuwen, 2008, p. 1572). In order to directly

connect social actors to each action or reaction, I recoded all excluded (suppressed or

backgrounded) actors as included, using my own interpretations of which actors were intended

by the context. I also standardized the terms so that variations of an actor could be counted as the

same actor. For example, "team members" or "teams" were recoded as simply *team* and

"students with disabilities" or "students" were recoded simply as *student*. As stated earlier, most

instances of the word *student* refer to a student with disabilities.

A summary of the results of this analysis are shown in TABLE IV. The complete

analysis on which this table is based is found in Table X, Appendix B. The results are more

marked than the results of the first analysis. Verbs linked to the (disabled) student are only

activated eight times whereas they are deactivated 40 times. The team is related to activated

actions and reactions in 83 instances and deactivated in 107 instances. It is interesting that the number of activated actions or reactions is not higher for the team. I interpret this to be the result of the fact that, according to my analysis, the SETT Framework itself is recontextualized as an actor. In other words, even the team is subjected to the actions of the framework, which is *instrumentalized* or represented by means of the instrument which carries out the action (Van Leeuwen, 2008).

TABLE IV

REPRESENTATION OF SOCIAL ACTIONS

Actor	Activation	Deactivation
Author	10	7
Educational System	4	18
SETT Framework	12	5
Student (Disabled)	8	40
Team	83	107

The educational system appeared again in this analysis. It was often related to the tasks associated with education, as in the phrases, "the tasks that are required" (Zabala, 2005, p. 1) or the "teaching/learning processes that lead to educational success" (Zabala, 2005, p. 1). It was also related to the practices associated with education, as in "only as valid as the evidence

shows" (Zabala, 2005, p 4), implying the action of validation by unknown actors. In one case, it was related to the environment in the phrase "arrangement (instructional, physical)" (Zabala, 2005, p. 2). This seems to implicate the practices of the whole education system at a more structural level. The actions are represented as deactivated, as if they were just features of the educational system instead of practices affected by actors.

In addition to the educational system, the author herself can be associated with 17 actions or reactions, although the role is suppressed as would be expected in more formal written language. Some of the author's opinions are evident and will be discussed in the analysis of style. The SETT Framework, a non-human actor that could be interpreted as a stand-in for the author, can also be associated with actions in the text. This parallels the occurrences found in the analysis of social actors previously discussed.

In terms of the transformational principles of recontextualization discussed at the beginning of this section, I think the most significant transformation is the substitution of the student as active agent to the student as passive agent. Paradoxically, this occurs despite the fact that 1) the student is generally not excluded as an actor in comparison to the team, 2) the student is the first word in the acronym SETT, and 3) the system of tools is supposed to be "student-centered." This creates an obstacle to addressing the aspect of the social wrong so precisely stated in the slogan "Nothing About Us Without Us" (Charlton, 1998). The student is recontextualized as the passive subject or beneficiary of the decision-making process instead of being represented as a decision-maker.

3. **Larger discourses**

To conclude this section on discourses, I would like to examine how the larger discourses identified by Ingunn Moser (2000) might intersect with the SETT Framework

document. First, it is important to identify her definition of discourse, which here is described

within the context of disability studies:

> Discourses - whether in medical practices, ideologies of rehabilitation, disability policies or social theory - work to produce 'ability' and 'disability', the 'normal' and 'abnormal'. They order, arrange, and create links and connections between actors and identities, and they distribute properties and ascribe qualities among subjects and objects, enabled and disabled, humans and non-humans. They are performative and get embodied in people and embedded in institutions and technologies. Medicine, sociology, STS [Science and Technology Studies], the academic and technoscientific disciplines all entail truth regimes that constitute what it is to be disabled, abled, woman, human; these discourses overlap with the discourses and practices of health professionals, disabled people's organisations or movements, welfare state bureaucracies etc. All work, in an overlapping and interfering set of performances, to produce and reproduce what it means to be 'human' and 'normal'. (Moser, 2000, p. 201-202)

This is a more Foucaultian and social constructionist definition of discourse than

Fairclough's, which is perhaps why the discourses Moser describes are larger and more abstract

than those I have discussed so far. But her view of discourse does overlap with Fairclough's

abstract view of language as a social practice when she says, "They order, arrange, and create

links and connections between actors and identities" (2000, p. 201). Moser also qualifies her

definition in the direction of Fairclough's critique of Foucault (1992) by saying, "This does not,

however, mean that there are no possibilities for agency and political action. It does not mean

that subjects are simply 'fixed', enacted in and by one (or more) discourses" (2000, p. 202). I

think it is possible, then, to ask which of the discourses discussed by Moser are reflected in the

SETT Framework asking how they might be textured (Fairclough, 2003) in the document.

In using the generic word *student* throughout most of the document, the author tries to

avoid constructing the student with disabilities against the background of the normal student,

although the disabled student is clearly the subject of the framework. The main theme of the

framework is to help teams determine the most appropriate "system of Tools" to "foster

educational success" (Zabala, 2005, p. 1). Educational success is, then, the outcome and tasks are

accordingly defined as what is required for the student to be an "active participant in teaching/learning processes that lead to educational success" (Zabala, 2005, p. 1). However, educational success, the end goal of the whole tool system, is itself is not defined. Does this mean that educational success is open to any constructed definition? Or, within the "figured world" (Gee, 2011a) implied by the social practices embedded in this document, does it refer to the normalized expectations of the educational system?

I believe it is probably the latter based on the context of special education practice and on several key sentences in the document. First, in the section that discusses how the S-E-T information should be used to think about tools, the first question the author urges her readers to ask is: "Is it expected that the student will not be able to make *reasonable* progress toward educational goals without assistive technology devices and services?" (Zabala, 2005, p. 2, emphasis added). Who decides what progress is reasonable in this scenario? The answer seems to be the nondisabled adults making educational decisions for the student against the assumption of normal progress. Second, in the conclusion section of the document, the author suggests that using her framework will make it "much more likely that the selected system of tools will *enhance* the student's abilities to address the tasks in which he/she is expected to build competency" (Zabala, 2005, p. 4, emphasis added). The key word *enhance* connects the assistive technology discussed under this framework directly to the discourse of normalization or rehabilitation because it assumes that the student's abilities need to be enhanced. In other words, the student cannot, in their own ability, make reasonable progress toward expected competencies. Competencies, of course, can also imply the yardstick of able-bodied norms.

The metaphorically-based discourses of prostheses and cyborgs are not part of the SETT Framework document because, as described in the previous section on recontextualization of the

student, the student is not an active subject in this document. The student portrayed here is far from the post-structural, post-human, re-imagined self of the cyborg discourse. There is perhaps an attempt to normalize the prosthetic aspect of assistive technology tools by broadening the definition to a "system of tools" that includes not only devices but also "strategies, accommodations, and modifications" (Zabala, 2005, p. 1). These are not rehabilitation terms (except maybe *modifications*). However, each of these non-device words is a technical term required for consideration by IEP teams under the legal mandate of IDEA, thus signaling the practice and discourse of special education and the discourse of disability rights.

The question at hand, as it has been for all of the analysis in this study, is: Does this pose an obstacle to addressing the social wrong? To answer it, I should note that the provision of reasonable accommodation was one of the victories of the landmark Rehabilitation Act of 1973, which was subsequently amended to include the provision of assistive technology (Cook & Polgar, 2008). When this civil right was incorporated into special education law, it gained the power to force school districts to pay for assistive technology devices, the most expensive of which can be upwards of $16,000 for an eye gaze controlled communication system. In an interactionist model of disability like the ICF, assistive technology addresses *impairment effects*, to use Carol Thomas' term, and functions as an important part of the support system that provides an interface between the person and the environment (Litvak & Enders, 2001). In this sense, the provision of assistive technology by institutions, whether school districts or state-level departments, is one means of addressing the social wrong, especially the material reality of its cost, so the AT itself is not an obstacle.

Moser makes this point when she says,

Don't get me wrong: I do not want to undermine the need and desire for rehabilitation, for basic civil rights and assistance for disabled people that will enable them to function

in everyday situations - and on their own terms. I do not want you to think that I dismiss rehabilitation and any attempt to include disabled people as normalising and disciplining. (2000, p. 209)

For Moser, the problem with the normalization discourse is that, as a "strategy for inclusion," it does not work because the disabled are always "destined to be substandard within this normalisation regime" (2000, p. 209). To me, it poses a semiotic obstacle in the SETT Framework document for the same reason. It represents the student as disabled against the yardstick of normalized concepts of educational success. To be more precise, the tasks to which the assistive technology is applied are defined according to the student's lack of reasonable progress instead of against the student's own learning goals and the student's own definition of educational success. It may not be possible within the current educational system to imagine a student carving out their own definition of educational success, but this merely emphasizes the question asked by Len Barton, "inclusion into what?"

F. **Analysis of Styles (Ways of Being)**

Styles are the discoursal aspect of ways of being, identities. Who you are is partly a matter of how you speak, how you write, as well as a matter of embodiment. (Fairclough, 2003, p. 159)

Analysis of style is probably the least important aspect of this study. In Fairclough's methodology, style refers to the way identity is constructed in discourse, meaning how the author (in the case of writing) expresses his or her social and personal identity (Fairclough, 2003). While this aspect would be very important in a study that examined how a disabled person represents him or herself discursively, it is less important in this study because the author is not disabled. The author is enacting an identity, though, so I will look briefly at how she uses evaluation and modality to enact her identity (Fairclough, 2003).

The author completely suppresses herself as an actor in this document, as noted in my analysis of social actors. This is not atypical for a document of this kind in which the

conventional practice is to write without using pronouns that refer to the self. The author does

show up, however, in the evaluative statements she makes and in the modality she uses.

Evaluation is an aspect of style and includes "evaluative statements" which are "statements about

desirability and undesirability, what is good and what is bad" (Fairclough, 2003, p. 172).

"Evaluative statements also evaluate in terms of importance, usefulness and so forth (see Lemek

1998), where desirability is assumed" (Fairclough, 2003, p. 172). Modality means "the speaker's

judgment of the probabilities, or the obligations, involved in what he is saying" (Halliday 1994

as quoted in Fairclough, 2003, p. 165).

The following are some of the statements in which the author reveals herself as an actor

through the strength of her statements. Evaluative or modal words are underlined.

- Teams <u>must</u> first develop a shared understanding of the student.

- They [the questions of the SETT Framework] are <u>expected</u> to guide and deepen discussion

- People are <u>encouraged</u> to imbed the use of the SETT Framework into existing processes

- There are some critical elements that must <u>ALWAYS</u> be included

- When a solution springs to mind, collaborators are <u>urged</u> NOT to voice it until it is time to talk about the Tools

- Even when a team member thinks of the 'perfect' solution, silent patience is <u>urged</u>

- It is <u>important</u> to revisit the SETT Framework information periodically

- Students, parents, and professionals <u>should</u> all rejoice at the increased opportunities for success (Zabala, 2005)

These rather strong statements are not necessarily an obstacle but they do tend to locate

the document in an expert discourse (Wodak & Meyer, 2009). The author is positioning herself

as the expert in relation to her audience. This is not unexpected, however, given the genre of this

document (the way it acts as a professional development tool).

V. DOES THE SOCIAL ORDER NEED THE SOCIAL WRONG?

This chapter addresses stage three of the explanatory critique framework. Fairclough explains this stage as follows:

> Stage 3 leads us to consider whether the social wrong in focus is inherent to the social order, whether it can be addressed within it, or only by changing it. It is a way of linking 'is' to 'ought': if a social order can be shown to inherently give rise to major social wrongs, then that is a reason for thinking that perhaps it should be changed. (Wodak & Meyer, 2009, p. 170-171)

Is the social wrong of the individual or medical model inherent to the social practice of assistive technology in education? Does the practice of AT in education need the medical model? In a sense, it does. Within the social practice of special education that requires the practice of AT in education, the legal definition of assistive technology is confined to students with disabilities. In the larger social world, the same legal definition relates assistive technology only to people with disabilities. As Litvak and Enders put it,

> If the products require you to consider your disabilities issues first, they they are assistive technology - even if they are widely available, mundane, mass-market products. If you did not have a disability, you would not have to think about these product features when you make your choices. When your disability is defining or narrowing your product choices and options, you are buying assistive technology, whether you are calling it that and whether it was designed to be AT (Enders 1997). (2001, p. 717)

When assistive technology is required by law, defining who needs or does not need AT becomes a matter of resource allocation. This, in turn, requires some system of determining eligibility, which in turn relies on medical descriptions of disability because of its individual focus. Many other social practices are determined this way, for people with disabilities and for others (for example, the determination of financial aid for college students). So yes, because of the material implications, the practice of assistive technology needs the medical model of disability.

The social model, of course, turns things around and questions whether the social environment can be constructed so as to not create disability. In education, this is perhaps realized in the concept of Universal Design for Learning (UDL). Technology is an important aspect of UDL, as explained here:

> In AT, modern technology is employed at the level of the individual student to help him or her overcome barriers in the curriculum and living environments. With UDL, modern technology targets the curriculum itself; that is, technology is used to create curriculum and environments that, by design, lack traditional barriers to learning. (Rose, Hasselbring, & Zabala, 2005, p. 508)

This quote is taken from a chapter co-written by Joy Zabala, the author of the SETT Framework. She currently works for the Center for Applied Special Technology, which has been promoting a version of UDL for many years (CAST, n.d.). Zabala is involved in national efforts to promote accessible instructional materials in the K-12 education system. I think it is interesting that, in a sense, she has moved from focusing on individual solutions that are dependent on a medical model of disability to focusing on environmental barriers, a focus more consistent with the social model of disability. In the article quoted above, though, the authors make clear that they do not want AT and UDL to be viewed as opposites:

> Some individuals may see AT and UDL as identical, or conversely, antithetical. We believe that neither view is accurate but instead that AT and UDL, while different, are completely complementary - much like two sides of the same coin. We believe that advances in one approach prompt advances in the other and that this reciprocity will evolve in ways that will maximize their mutual benefits, making it essential that both approaches are pursued vigorously and distinctively. Through a better understanding and melding of AT and UDL, we believe that the lives of individuals with disabilities will ultimately be improved. (Rose et al., 2005, p. 507)

On the QIAT listserv, one of the primary communities of practice for AT in education (Wojcik, 2011), the difference between assistive technology and UDL is still occasionally a matter of discussion. The discussion centers on whether the need for assistive technology will ever go away if and when the principles of universal design are fully implemented. This question

was taken up by Tom Shakespeare in his critique of the utopian aspect of the social model. He concludes that "even in the most accessible world, there will always be residual disadvantage attached to many impairments" (Shakespeare, 2006a, p. 50). This is because his critique is based in an interactionist model of disability, such as is represented by the ICF.

Assuming an interactionist model of disability, then, assistive technology itself is not an obstacle to addressing the social wrong because it will always be needed by some individuals. The obstacles are, rather, in the cultural assumptions inherent in the idea of assistive technology, namely, its strong connection to medical interpretations of disability. It seems to me that one way around this obstacle is to find a way to detach the tool from the person in a way that suggests that everyone uses tools as assistive devices in the course of their daily livin

<h2 style="text-align:center">VI. IDENTIFY POSSIBLE WAYS PAST THE OBSTACLES</h2>

A. **<u>The TEST Framework</u>**

This chapter addresses stage four of the explanatory critique framework. Fairclough

notes, "Stage 4 moves the analysis from negative to positive critique: identifying…possibilities

within the existing social process for overcoming obstacles to addressing the social wrong in

question" (Wodak & Meyer, 2009, p. 171). Ira Socol, a prolific blogger on educational topics

and currently a doctoral student at Michigan State University, has offered a re-ordered and re-

labeled version of the SETT Framework that seems to provide a way past some of the obstacles

identified in this study.

Socol reorders the letters of SETT to TEST. *Task* is first, *environment* is second, *student*

is replaced with *skills*. The *tools* category comes at the end, as in the SETT Framework. This is

because, in both cases, assistive technology is determined by the other categories so that it will

be individualized. His version is a specifically ordered process that starts with the task instead of

the student. Socol notes,

> Though I appreciated Zabala's flexible "start at any point" concept, I thought it was
> missing a crucial point. That point is that humans are tool users, that everything we do in
> learning is really "tool-based" to some extent, but that - at the core - we humans pick
> tools based on the task at hand. (2011, January 5).

In a slide presentation embedded in one of his blogs related to his version of SETT, he

describes his reasons for the shifting the Task to first place:

> When I applied SETT to student-based decision-making, the order did not make sense.
> There was frustration with what one university freshman called the, "my problems first,"
> approach. There was also the sense that it did not direct flexibility - the need for different
> answers to different problems. (Socol, 2011, January 5)

First, his point is that different tools are needed for different tasks, so rather than applying

the tool to the student, the tools are first applied to the task. Thus, the word *task* is shifted to the

front. He calls this "Toolbelt Theory," which is a metaphorical way of expressing what he sees as

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an important fact: everyone needs different tools for different tasks and needs to learn how to

self-select the appropriate tools. The ability to self-select the tools is an important part of

removing the obstacle that the team-driven SETT Framework presents. Socol explicitly says that

his re-ordering of SETT is "designed for self-determination" (2008, May 23). In the educational

context, the goal of his "Toolbelt Theory" is to teach students how to be self-determined.

Second, since the *environment* category and the *tools* category have the same label and

are in the same positions in the acronym as the SETT Framework, the other significant change in

Socol's version is the renaming of *student* to *skills*. This is also a deliberate move designed to

avoid medicalizing disability. Socol says, "I didn't need to say 'student' in the list because the

idea is that the student would be making, and learning to make, the decisions" (2011, January 5).

As he explains in more detail:

> Toolbelt Theory begins with the SETT framework of Dr. Joy Zabala. SETT, Student-Environment-Tasks-Tools, was a breakthrough way of thinking about choosing technology for students in the 1990s. But despite training in it, using it, teaching it, I struggled with certain issues. SETT became the tool of "school-based teams" too often making decisions without direct student input, and it seemed to me, that the use of the descriptor "student" encouraged this (It wasn't METT, after all, with "Me" at the start). (2011, January 5)

The point is that everyone has a skill set and needs to evaluate their own capabilities in

terms of the task at hand, the environment in which the task must be accomplished and the tools

that are available (Socol, 2008). In the slide presentation on his blog, Socol asks the following

questions under the "Skills" heading:

> 1) What specific strengths does the person with the disability bring to this task?
> 2) What specific weaknesses interfere with that person's ability to complete the task?
> 3) What is that person's 'tool acquisition aptitude' and what tools are they currently comfortable with? (2011, January 5)

The questions are worded from an outsider's point of view ("does the person" instead of

"do I"), which contradicts the idea that the student would make their own tool selection. But

Socol notes in the blog that the slides are from "an early conference presentation of TEST" (2011, January 5). This to some degree mirrors the production problems of the SETT Framework, where the audience is primarily nondisabled professionals who support people with disabilities and, therefore, the actions of the professionals are activated. However, in the immediately surrounding text, Socol makes clear that this is not his intent.

Third, even though the word *tool* is the same, Socol does define it in a way that helps remove the distinction between disability and nondisability. He states,

> Tools matter though. They are the most basic thing about being human. We are many things - human beings - but above all we are tool users. Unlike most other species, and far more than any other species, we have defined ourselves by crafting tools which allow us to control our environment and overcome our limitations. (2008, May 23).

In Socol's version of the framework, then, tools are not defined as assistive technology devices and services or as strategies, accommodations and modifications. They are simply defined as the tools that are part of the discourse that defines humans as tool users. In my mind, this creates a clean relationship between tasks and tools.

To be fair, Zabala has said that her framework does not require a particular order in terms of the first three elements. She also puts the word *tools* last because they are determined by the other categories but insists that it is a myth to interpret her framework as requiring that the student be considered before the environment and before the tasks because "in reality it is almost impossible to talk about one without mentioning the others" (Zabala, 2010, p. 3). However, in an email exchange on the QIAT listserv on the topic of Socol's re-ordered version of SETT, Zabala specifically stated that she did not think it necessary to re-order the letters in the SETT Framework because "the STUDENT, both legally and practically, is the central focus of all planning and activity, thus we always want to put the student first and foremost in our minds" (Zabala, 2011). Socol's point, though, is that the student should learn to be in charge of his/her

own planning and learn to make his/her own tool decisions. He emphasizes, "I did not offer 'start anywhere' flexibility. No matter who the student might be, or what issues he or she might face, question one, to me, is always, 'What is the task?'" (Socol, 2011, January 5).

Finally, Socol's discussion of the *environment* element is different from the SETT Framework. In the slide show on his blog, he asks the following questions under the environment category:

1) Where must this [task] be done (or is typically done)?
2) Under what time constraints?
3) What is the standard method of task completion?
4) How does the person with the disability interact within this environment?
5) Who is the task being done for? (specifics of teacher, employer, other expectations) (Socol, 2011, January 5)

These questions, especially the third and fourth, begin to probe neutral assumptions about the environment, although they do it fairly gently. They do not directly point a finger at the environment as the source of disability but they do question the interaction between the person and the environment, which suggests an interactionist model of disability similar to the ICF. The fifth questions the source of the tasks much more strongly the SETT Framework. Instead of backgrounding the actors responsible for assigning the tasks, Socol specifically asks for them. This is, in my opinion, an important step toward acknowledging that the source of at least some disablement might originate in the unexamined demands of teachers and employers.

B.   **The Limits of TEST as a Way Past the Obstacles**

I think Socol's TEST framework helps remove the obstacles related to medicalizing the disabled student and representing the disabled student as passive. It recontextualizes the student as empowered and removes the discourse of normalization by universalizing the human use of tools without using the cyborg discourse. However, it does not remove the material problem of providing tools, which as noted earlier, can, in some cases, be very expensive. Socol's Toolbelt

Theory assumes that various tools are available in the environment for selection and use by the student. He does try to address the material aspect of this by advocating the use of free tools, such as text-to-speech plug-ins for Internet browsers. This is certainly an important way to address the needs of many students with what are referred to as *high-incidence disabilities* (for example, learning disabilities and ADHD). However, free tools do not address the needs of students whose impairment effects require complex and costly technology not widely available, such as a $16,000 eye gaze system.

Second, I think that Socol's environment category could question a bit more strongly toward the disabling factors in the environment. I suggest inserting specific questions about *opportunity barriers* (policy, practice, lack of knowledge, lack of skill, attitude) from Beukelman and Miranda's Participation Model, which "refer to barriers that are imposed by people other than the individual with [disabilities]" (2005, p. 142-144). Their model includes the category of *access barriers* but they interpret these as pertaining "to the capbilities, attitudes, and resource limitations of individuals… rather than to limitations of their societies or support systems" (Beukelman & Mirenda, 2005, p. 145). I would reinterpret this category as referring to the built environment because the skills category in Socol's framework is what refers to the individual's own strengths and weaknesses.

I also do not think that Socol's empowerment of the student in his Toolbelt Theory should be interpreted as removing the need for the professional support for assistive technology. It does shift the discourse so that the student is represented as the actor in some of the verbs that define the practices of assistive technology in the legal mandate (IDEIA 2004), such as *evaluate*, *select*, *fit*. However, other verbs, such as *purchase* and *train* require other actors. Purchasing decisions have to be made by key individuals in the school district (or other setting), who must

be fiscally responsible to the taxpayer (or medical provider). Decisions guided by the principles

of Universal Design, though, can still give students the choice to use universally available tools

rather than restricting access to them through an assessment process. In this scenario, it is

helpful, if not necessary, for an adult to teach students about the available technology options

and, in some cases, to help the student decide what tool is most effective for them. An

assessment process would still be needed in cases where universal design is not available or

possible.

VII. REFLECTION ON THE ANALYSIS

The final stage of Fairclough's explanatory critique framework, as described in *Discourse and Late Modernity*, is reflection on the analysis because "critical social research should be reflexive" (Chouliaraki & Fairclough, 1999, p. 66). First, I will reflect on the research process itself. Then I will discuss its limitations. Finally, I will discuss the implications of this study and indications for further research.

A.   <u>Reflection on the Research Methodology</u>

Using Fairclough's interdiscursive methodology for discourse analysis—seeing the text in relation to the semiotic and non-semiotic elements of social practice—has significantly expanded my understanding of frameworks and models. Whereas I used to see models as merely cognitive conceptualizations, I now see them as representational events that are deeply ingrained in the social structures and practices that produce them. This relativizes their power and helps resist the temptation to essentialize social practices in models. The power of the SETT Framework is relativized to me because I now view its production as ways of acting (genre), ways of representing (discourses) and ways of enacting identity (styles) that are shaped by social structure and social practice. I am much less confident now that one should attempt to prescribe social practices in models. However, within a dialectical theory of language, discourse is not entirely shaped by social practice. Agency is not entirely removed. The dominant discourse can be altered. As Fairclough argues, this is what makes social change possible (Fairclough, 1992).

B.   <u>Limitations of This Study</u>

My analysis is itself a recontextualization of the SETT Framework. Although, as discussed in the methodology section, this does not necessarily relativize the explanatory power of my critique, but it does suggest its limitations. This study is limited to my interpretation of the

text and does not take into account any other reader's interpretation, which is part of the process

of consumption. Jørgensen and Phillips (2002) identify the lack of empirical research into the

consumption of texts as a weakness of Fairclough's overall approach. Fairclough himself writes

explicitly about the limitations of textual analysis:

> By itself, textual analysis is limited. I discussed…the involvement of texts in meaning-making, the causal effects of texts, and the specifically ideological effects of texts. None of these can be got at through textual analysis alone. To research meaning-making, one needs to look at interpretations of texts as well as texts themselves, and more generally at how texts practically figure in particular areas of social life, which suggests that textual analysis is best framed within ethnography. (2003, p. 15)

From the point of view of disability studies research, the lack of perspective from

disabled individuals is a weakness, although how significant is debated (Clark et al., 1998). As I

stated at the beginning, I used the perspective of disability studies in general to identify and side

with the social wrong previously identified by people with disabilities and, in so doing, have

accepted the legitimacy of their critique.

C.   **Implications of This Study**

Despite the limitations of textual analysis, I believe this study demonstrates how text

works, consciously or unconsciously, to represent people with disabilities. Through unspoken

assumptions and the process of recontextualization, people with disabilities are constructed

textually as social actors of some kind involved in social actions. These textual constructions

reproduce and contribute to the disability discourse. Although it is a matter of extensive

philosophical debate to what extent discourse creates, constructs, construes, or merely represents

social 'reality', I believe this study makes clear that a text is not neutral. I also believe that the

sociological and theoretical approaches to disability touched on in Chapter 2 make clear that

disability can no longer be regarded as a socially neutral description of the medical condition of

individual people. Rather, it is an interaction that implicates us all.

We are implicated in the policy documents we produce because policy is discourse. I was originally motivated to study the various frameworks for assistive technology in education when I found myself in the position of needing to create district-wide policy for assistive technology in my district. No written policy had been created yet so the slate was mine to write on. There were many fine examples on which to base written policy for my district, of course. Many of them are listed in Table XI, Appendix C. One of them is even offered as a model for school districts to copy. But the discovery of representations of the assistive technology process different from the widely accepted SETT Framework led me to question the assumptions of the AT manuals based solely on the SETT Framework. Specifically, Ira Socol's reordered version of SETT made intuitive sense to me, mostly because, in practice, I found it was important to first establish what task a student was expected to do with the as-yet undetermined assistive technology teachers were requesting (often as a last-ditch attempt to help a struggling student). I did not yet have the theoretical understanding to see that Socol was suggesting something deeper than a simple reordering of the components of the SETT Framework for the sake of practicality. When I discovered the theoretical underpinning in disability studies, I recognized what he was trying to do and was happy when he made this explicit in an electronic mailing list conversation (Socol, 2011, January 6). However, the theoretical understanding of discourse and its role in the construal of the social world was needed to explain how writing policy for a district-wide audience implicated me in disability. I hope this point was sufficiently demonstrated in the preceding chapters.

We are also implicated in the professional development we deliver because professional development is discourse. As noted in the analysis of genre, the SETT Framework acts as a professional development tool. Thus, it is not only in the formal policy documents we produce

but also in the PowerPoint slides, photocopied handouts, and speeches we deliver to the attendees of professional development that we construe disability.

We are also, of course, implicated in our practice. Following Chouliaraki and Fairclough's (1999) conceptualization of social life, there are many non-discursive, non-semiotic elements that constitute our social practices, therefore more than discourse is involved in practice. This study does not address those elements, although I would note that, in my experience, many assistive technology specialists who practice in the K-12 education setting seem to enact a biopsychosocial model of disability in their interaction with individual students even if their written policies, professional development, and frameworks do not. However, "most interaction substantively and centrally involves discourse, and the generative, creative properties of interaction are very largely to do with properties of discourse" (Chouliaraki & Fairclough, 1999, p. 38). So we are not off the hook when it comes to practice. What has been discussed in this study in terms of a written document also implicates us in our practice of assistive technology in education.

Finally, the disabled student is implicated. I have deliberately followed a fairly mild version of constructionism (critical realism) and an interactionist model of disability (the ICF) in this study because I am aware that for some, any form of constructionism or the social model of disability in special education is anathema (Anastasiou & Kauffman, 2011). I respectfully disagree, although I know this study will not resolve epistemological differences. I believe the disabled student is implicated because, no matter how 'severe' the specific impairment, a human being should be construed as more than a medical description of his or her functional limitations. I do not think the SETT Framework does this. However, in its recontextualization of the student as the mostly passive recipient of an external process, it presents some obstacles to rethinking

disabled students as social agents within a world that has historically disempowered the disabled. Of course, there are students whose impairment effects (those associated with strong forms of autism, for example) seem to negate the usefulness of any socially constructed understanding of disability. They may not be able to participate very much in selecting their own assistive technology. In other words, they may indeed seem to be passive recipients of a decision-making process. But I would argue that it is still important that they be represented as decision-makers so that *their* choices, even if they are choices within a narrow field of selection, are honored and *our* choices in construction of their environment, where they carry out activities and tasks, are critically examined.

D.   **Suggestions for Further Research**

Further research of a different kind is needed to confirm whether Ira Socol's re-ordered framework removes obstacles to the social wrong when used in actual practice. Fairclough suggests that CDA can help "show how and subject to what conditions discourses are operationalised as strategies and implemented" but, because "the operationalisation of discourses is always subject to conditions which are partly extra-discursive" (2010, p. 20), Fairclough suggests that other methods of critical social analysis are needed. I suggest that more research is needed to examine the conjuncture of the practices of assistive technology and special education to determine whether and how the practice of assistive technology can be unhinged from special education and relocated in education. I also suggest that the perspective of the students who use assistive technology in educational settings is needed to clarify how the discourses of assistive technology, special education and education affect them.

APPENDICES

TABLE V

ANALYSIS OF ASSUMPTIONS ABOUT STUDENT

Quote from Zabala, 2005	Comment	Type	Applies to
Interests and preferences	This is a common question in education not generally connected to disablement	Existential assumption	Any student
matched to the student's needs and abilities	Assumes the student has needs and abilities.	Existential assumption	Any student
people supporting the student	Student is assumed to be surrounded by people who support. Is this disabling or a general assumption of students in schools?	Factual assumption	Any student
in which the student spends time	Assumes the student spends time in different environments	Factual assumption	Any student
Tasks required of students	Assumes students are required to do tasks	Factual assumption	Any student
student grows in competence confidence and independence	Assumes the student will grow which is the goal for all students in school	Factual assumption	Any student
increase the achievement of a student	Assumes that the student's achievement is lagging	Value assumption	Any student
active involvement	The student is expected to be actively involved	Value assumption	Any student
expected to build competency	This expectation of competency is part of the assumptions surrounding the student. However all students are viewed as incompetent until educated	Value assumption	Any student
student's achievement	Assumes the student needs to achieve. Also a general assumption of students	Value assumption	Any student
tasks that are required for the student to be able to do or learn to do to be an active participant in the teaching/learning processes	Assumes that the student should be an active participant in the learning process	Value assumption	Any student
educational success	An assumed quality of the student	Value assumption	Any student

TABLE V (continued)

Quote from Zabala, 2005	Comment	Type	Applies to
Student-centered	Student is at the center of what? The educational system? The special education system?	Value assumption	Any student
help the student succeed	The assumption might be that the student cannot succeed on their own. Is this disabling? We make this same assumption for students in general. In a sense helping students succeed is the point of education	Value assumption	Any student
student's natural environments	Assumes some kind of definition of "natural" – if the student is in a self-contained classroom is that a natural environment?	Existential assumption	mixed
needs, abilities and interests of the Student	could apply to any student but "needs" might assume "special needs"	Existential assumption	Mixed
Current abilities	Everyone has abilities but does this connect with an assumption of "dis/ability" as located in the person	Existential assumption	Mixed
student needs	Doesn't say "special needs" but this is assumed? Assumes student has needs	Existential assumption	Mixed
team members analyze the information gathered on the Student	Assumes the student cannot analyze the information themselves	Factual assumption	Mixed
support student achievement	Assumes student needs support in order to achieve. Assumes a definition of achievement.	Factual assumption	Mixed
Expectations and concerns	This is under "questions to ask about the student." Not clear whose expectations and concerns are to be considered. The parents' the school's the student themselves?	Factual assumption	Mixed

TABLE V (continued)

Quote from Zabala, 2005	Comment	Type	Applies to
not on the knowledge [of] one person… but based on agreed-upon mutually valid shared knowledge of the student	Assumes the need of adults to gather this information and that the student cannot do this themselves or that their "knowledge" doesn't have more weight. In one sense this is typical in education. Data is gathered all the time about children who are not always equipped to articulate their own needs. However, it is also used in special education to label and categorize according to qualities of person. The assumption of a team of professionals collaborating to produce this knowledge is more a feature of special ed than regular ed, where the assumption is that the classroom teacher knows the student. However, in middle school, a team shares this knowledge.	Value assumption	Mixed
shared understanding of the student	Assumes that a shared understanding of the student is needed by the team	Value assumption	Mixed
Not only are the multiple professional perspectives important to include, but also those of the student and the parents	Student perspectives are acknowledged but positioned after the "multiple professional perspectives"	Value assumption	Mixed
address the specific needs of the student	Specific needs here assumes special needs?	Existential assumption	SWD
Level the Learning Field for Students with Disabilities	Assumes that the learning field (metaphor from playing field) is not level for SWD. This implies external factors	Existential assumption	SWD

TABLE V (continued)

Quote from Zabala, 2005	Comment	Type	Applies to
lowering barriers to student achievement	This links student achievement directly to barriers. However it doesn't explicitly identify the barriers as external. They could be assumed to be internal (medical)	Existential assumption	SWD
Special needs	This triggers a host of assumptions critically analyzed by DS in education	Existential assumption	SWD
Is it expected that the student will not be able to make reasonable progress toward educational goals	Assumes impairment in the student	factual assumption	SWD
describe what a useful system of supports devices and services for the student	Assumes student cannot describe this system themselves	Factual assumption	SWD
difficult or impossible to do independently	Assumes presence of impairment within context of education because we don't give tasks to children that we don't expect them to be able to do.	Factual assumption	SWD
enhance the student's abilities	Assumes that the student's abilities are insufficient because they need enhancement. This gets into the whole prosthesis/cyborg discourse.	Factual assumption	SWD
functional area(s) of concern	This is under "questions to ask about the student." Functional is used because of AT definition. Assumes some concept of functional.	Factual assumption	SWD
foster the educational success of students with disabilities	Assumes that educational success of SWD needs to be fostered by teams	Factual assumption	SWD
Student	Assumed to be disabled. Said explicitly above but disabled is dropped here	Factual assumption	SWD

TABLE V (continued)

Quote from Zabala, 2005	Comment	Type	Applies to
students, parents and professionals should all rejoice at the increased opportunities for success	assumes that the opportunity for success was limited	Value assumption	SWD

Note: SWD = Student with Disabilities

TABLE VI

ANALYSIS OF ASSUMPTIONS ABOUT ENVIRONMENT

Quote from Zabala, 2005	Comment	Assumption	Type
Environment: Arrangement (instructional physical)	assumes that the environment is physically and instructionally "arranged" by somebody, therefore implies active construction of environment	Factual assumption	active
Environment: Support (available to both the student and the staff)	assumes that support from adults is available and is part of the environment	Factual assumption	active
Environment: Access Issues (technological physical instructional)	assumes that environment poses access "issues" or problems	Factual assumption	active
Environment: Attitudes and Expectations (staff family other)	assumes that attitudes and expectations of others are part of the constructed environment	Factual assumption	active
parts of the Tool system may more specifically address issues in the Environments such as access to the classroom, accessibility of instructional materials, support for staff that helps them develop and sustain learning environments that are inviting challenging and productive for ALL students	assumes construction of built environment	Factual assumption	active
environmental control (part of bullet point under Tasks header, describes task)	assumes that student will need to control their environment, which assumes that environment can be controlled	Factual assumption	active

TABLE VI (continued)

Quote from Zabala, 2005	Comment	Assumption	Type
Environment: Materials and Equipment (commonly used by others in the environments)	assumes constructed environment where 'common usage' by 'others' occurs. This could be translated as "normal" usage by nondisabled students. The question is: are they accessible through universal design or are the materials and equipment inaccessible?	Factual assumption	active
Environments (label for SETT acronym)	assumes that the category of environment is an important component of the Framework; that it needs to be analyzed	Existential assumption	mixed
Tools for trials in the natural environments	Assumes the existence of "natural" environment, which seems to posit the existence of "unnatural" environments. What would these be? Does it hint at exclusionary environments (unnatural to most students)? Or does it hint at "naturalized" environments, those which are assumed to be natural for certain students? homonym for setting	Existential assumption	mixed
customary environments in which the student spends time	Assumes the existence of "customary" environments, which seems to posit the existence of 'non-customary' environments. Again, does this hint at exclusionary environments in the sense that "custom" refers to social practice of education or does it hint at naturalized environments in which the "custom" refers to the social practice of special education. Homonym for "setting"	Existential assumption	mixed
Environments (refers to information gathered on Environment during the SET process)	assumes that environment is an important factor	Existential assumption	mixed

TABLE VI (continued)

Quote from Zabala, 2005	Comment	Assumption	Type
the particular challenges and facilitators of the environments in which it is being used	assumes that environment can be challenging and that people can facilitate the environment	Factual assumption	mixed
an agreed-upon mutually valid shared knowledge of the student the environments	assumes that shared knowledge of the environment is better than one person's knowledge	Value assumption	mixed
When the Environment and the Tasks are fully explored and considered	assumes that the environment should be explored and considered	Value assumption	mixed
have been successfully used in non-educational environments and service plans	assumes a meaning closer to "setting" - not a built environment but more like a social practice. Acknowledges the social practice of AT outside of education	Existential assumption	neutral
Environments (header for bullet points)	assumes multiple environments for the student. Homonym for setting	Existential assumption	neutral
What SPECIFIC tasks occur in the student's natural environments	assume that tasks are connected to environment; that a specific set of tasks is associated with a specific environment. Homonym for "setting"	Factual assumption	neutral
the details of the Environments	assumes that a set of details are available about the environment	Factual assumption	neutral
Tasks required of students in those environments	assumes that task are connected to environments. Homonym for setting	Factual assumption	neutral
active involvement in identified environments	assumes environments can be identified. Homonym for setting.	Factual assumption	neutral

TABLE VI (continued)

Quote from Zabala, 2005	Comment	Assumption	Type
They provide teams with a place to begin and support the building of strong processes that are imbedded in or aligned to other processes that suit specific environments	assumes that processes can and should suit specific environments. I think this use of the word is closer to "setting", referring back to the opening statement about using SETT in non-educational "environments"	Factual assumption	neutral
Environmentally useful (describing the system of tools)	assumes that tools need to fit the environment, which places the burden of "fit" on the tool rather than on adapting the environment	Value assumption	neutral

TABLE VII

ANALYSIS OF ASSUMPTIONS ABOUT TASK

Quote from Zabala, 2005	Comment	Type
the natural tasks which are part of living and learning in this world	Assumes that tasks are natural, a taken for granted element of living and learning in this world	existential assumption
What does the student need to be able to do that is difficult or impossible to do independently at this time	Assumes tasks; this is under the section of bulleted questions to ask about the student	factual assumption
specific Tasks required of students	Assumes that the tasks are not of the student's choosing but are required	factual assumption
What SPECIFIC tasks occur in the student's natural environments that enable progress toward mastery of IEP goals and objectives?	Assumes that tasks are specific and assumes tasks directed toward achievement of IEP goals	factual assumption
What SPECIFIC tasks are required for active involvement in identified environments? (related to communication instruction participation productivity environmental control)	Assumes that tasks are specific and assumes that they are required for active involvement	factual assumption
It is much more likely that the selected system of tools will enhance the student's abilities to address the tasks in which he/she is expected to build competency thus making the tools more valuable	This sentence is arguing that the SETT Framework will generate a more appropriate range of tools. Assumption is that tasks require competency building	factual assumption
When the Environment and the Tasks are fully explored and considered the lament "Well I tried that but it didn't work" is much less likely to be heard	Assumes that part of the cause of the lament is that tasks are not fully explored	factual assumption

TABLE VII (continued)

Quote from Zabala, 2005	Comment	Type
when Tools - devices, services, strategies, accommodations, modifications training etc. - are well matched to the student's needs and abilities to perform the natural tasks which are part of living and learning in this world	Assumes that student needs and abilities are relevant to task and are a more important factor than matching tool to task	factual assumption
Tasks	Labeling the acronym. Assumes task is important enough to include in framework, although it is positioned 3rd.	value assumption
the tasks that are required for the student to be able to do or learn to do to be an active participant in the teaching/learning processes that lead to educational success	Defines task in terms of active participation. Is something student is simply required to do or needs to learn to do	value assumption
Tasks- focused	Adjective phrase to describe the system of tools	value assumption
The Tasks	Heading for bulleted questions; assumes importance of this category	value assumption
team members analyze the information gathered on the Student the Environments and the Tasks	Restatement of need to analyze tasks simply assumes its importance	value assumption
based on an agreed-upon mutually valid shared knowledge of the student the environments and the task	Assumes team understanding of the task is better than one person	value assumption

TABLE VIII

ANALYSIS OF ASSUMPTIONS ABOUT TOOL

Quote from Zabala, 2005	Comment	Type
Tools include devices services strategies training accommodations modifications - everything that is needed to help the student succeed	assumes reader knows categories used in the definition	definitional statement
Some parts of the Tool system address the specific needs of the student while parts of the Tool system may more specifically address issues in the Environments	*(no comment)*	definitional statement
The SETT Framework is tool	*(no comment)*	Definitional statement
collaborators are urged NOT to voice it until it is time to talk about the Tools	*(no comment)*	Definitional statement
generate a range of Tools that can be used to support student achievement	*(no comment)*	Definitional statement
when Tools (devices services strategies accommodations modifications, training etc.) are well matched to the student's needs and abilities to perform the natural tasks which are part of living and learning in this world	*(no comment)*	Definitional statement
The SETT Framework is a tool	*(no comment)*	definitional statement
an appropriate system of Tools (supports - devices services strategies accommodations modifications etc.)	*(no comment)*	definitional statement
describe what a useful system of supports devices and services for the student would be like if there were such a system of Tools.	assumes that such a description is possible	factual assumption

TABLE VIII (continued)

Quote from Zabala, 2005	Comment	Type
Brainstorm specific Tools that could be included in a system that addresses student needs	assumes that there are specific tools	factual assumption
most promising Tools for trials	assumes that some tools are more promising than others	factual assumption
when/how tools will be used	assumes tools will be used in certain locations and in certain ways	factual assumption
abandonment or under implementation of Tools	assumes that abandonment or under implementation takes place - this is an area of significant research so this is really an intertextual reference	Factual assumption
the system of Tools to support and increase the achievement of a student	assumes tools will support student and increase achievement	factual assumption
One of the major premises of the SETT Framework is that decisions about Tools (the devices and actions that are needed for the student and others to succeed) are most valid when they are made based not on the knowledge that one person has (or believes that they have) but based on an agreed-upon mutually valid shared knowledge of the student the environments and the task	the word "premise" signals the assumption here about validity	factual assumption
Tools	assumes tools are important	Value assumption
a system of tools that is Student-centered Environmentally useful and Tasks- focused	assumes that tools should have these qualities. Could be a definitional statement	value assumption
Tools	assumes tools are important	value assumption
It is much more likely that the selected system of tools will enhance the student's abilities to address the tasks in which he/she is expected to build competency thus making the tools more valuable	assumes tools will enhance ability	Value assumption

TABLE VIII (continued)

Quote from Zabala, 2005	Comment	Type
more likely that the people supporting the student will see the relevancy of using the Tools as the student grows in competence confidence and independence and thus be more active in encouraging and supporting the student's achievement through its use	assumes that supporting people need to see the relevance and explains that this is because it will make them more active	Value assumption

TABLE IX

COMPLETE ANALYSIS OF SOCIAL ACTORS

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/ Exclude	Further Analysis
the specific Tasks required of students	Educational system	excluded	require	suppressed	
What SPECIFIC tasks are required for active involvement in identified environments?	Educational system	excluded	require	suppressed	
the tasks that are required	Educational system	excluded	require	suppressed	
including those with the full range of abilities	Nondisabled Students	included		collectivization	a type of specification by assimilation
Materials and Equipment (commonly used by others in the environments)	Others	included	use	active	
the devices and actions that are needed for the student and others to succeed	Others	included	succeed	active	
multiple perspectives can be challenging at times they are critical to the development of the accurate complete development of shared knowledge	Parents	excluded	challenge	backgrounded	impersonalization by abstraction
Multiple Perspectives	Parents	excluded		backgrounded	passive agent deletion

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
students parents and professionals should all rejoice at the increased opportunities for success	Parents	included	rejoice	active	
Attitudes and Expectations (staff family other)	Parents	included		collectivization	possessivation
The SETT Framework supports a thorough yet simple approach to assistive technology assessment and intervention	SETT Framework	included	support	active	impersonal objectivation by instrumentalization
The SETT Framework requires that people communicate actively and respectfully	SETT Framework	included	require	active	impersonal objectivation by instrumentalization
The SETT Framework is tool that both requires and supports the collaboration of the people who will be involved in the decision-making	SETT Framework	included	require and support	active	impersonal objectivation by instrumentalization
those who will be impacted by the decisions	Staff	excluded	decide	backgrounded	
it is also critical to gaining the buy-in necessary for effective implementation of any decisions	Staff	excluded	gain	backgrounded	nominalization
the people supporting the student will see the relevancy of using the Tools	Staff	included	support	active	

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
be more active in encouraging and supporting the student's achievement through its use	Staff	included	achieve	active	(grammatically linked to people)
Attitudes and Expectations (staff family other)	Staff	included	expect	active	nominalization
Support (available to both the student and the staff	Staff	included	support	passive	beneficialization
support for staff that helps them develop and sustain learning environments	Staff	included	develop and sustain	active	
it is also critical to gaining the buy-in necessary for effective implementation of any decisions	Student	excluded	buy-in	backgrounded	
those who will be impacted by the decisions	Student	excluded	decide	backgrounded	
Special needs (related to area of concern)	Student	excluded		backgrounded	differentiation
Current abilities (related to area of concern)	Student	excluded		backgrounded	differentiation
Interests and preferences	Student	excluded		backgrounded	identification
special needs	Student	excluded		backgrounded	differentiation
What SPECIFIC tasks are required for active involvement in identified environments?	Student	excluded	involve	backgrounded	nominalization
as the student grows in competence confidence and independence	Student	included	grow	active	

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
the customary environments in which the student spends time	Student	included	spend time	active	(student spends time)
students parents and professionals should all rejoice at the increased opportunities for success	Student	included	rejoice	active	
the needs abilities and interests of the Student	Student	included		Identification	
The Student	Student	included		Functionalization	student is the function
Is it expected that the student will not be able to make reasonable progress toward educational goals without assistive technology devices and services?	Student	included	progress	active	
supporting the student's achievement through its use	Student	included	achieve	active	
for the student to be able to do or learn to do to be an active participant in the teaching/learning processes that lead to educational success	Student	included	do, learn, participate	active	
Support (available to both the student and the staff)	Student	included	support	passive	beneficialization
Tools include devices services strategies training accommodations modifications - everything that is needed to help the student succeed	Student	included	succeed	active	

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
Some parts of the Tool system address the specific needs of the student	Student	included	address	passive	beneficialization
what needs to be in the system of Tools to support and increase the achievement of a student	Student	included	support and increase	passive	beneficialization
Brainstorm specific Tools that could be included in a system that addresses student needs	Student	included	address	passive	beneficialization
the devices and actions that are needed for the student and others to succeed	Student	included	succeed	active	
only as valid as the evidence shows they have been successful in lowering barriers to student achievement	Student	included	achieve	active	
Tools that can be used to support student achievement	Student	included	use (tools), achieve	active	
tools will enhance the student's abilities to address the tasks in which he/she is expected to build competency	Tools	included	enhance	active	objectivation of "tools"
tools will enhance the student's abilities to address the tasks in which he/she is expected to build competency	Team	excluded	expect	backgrounded	

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
tools will enhance the student's abilities to address the tasks in which he/she is expected to build competency	Student	included	address	active	
people supporting the student	Student	included	support	passive	beneficialization
describe what a useful system of supports devices and services for the student would be like if there were such a system of Tools	Student	included		passive	beneficialization
but also those of the student and the parents	Student	included		passive	possessivation
teams must first develop a shared understanding of the student	Student	included		passive	subjection
a system of tools that is Student-centered	Student	included		passive	subjection
What does the student need to be able to do that is difficult or impossible to do independently at this time?	Student	included		passive	subjection
What SPECIFIC tasks occur in the student's natural environments that enable progress toward mastery of IEP goals and objectives?	Student	included		passive	subjection
team members analyze the information gathered on the Student	Student	included		passive	subjection
shared knowledge of the student	Student	included		passive	subjection

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
are well matched to the student's needs and abilities to perform the natural tasks which are part of living and learning in this world	Student	included		passive	subjection
the specific Tasks required of students	Students (All)	included		passive	subjection
learning environments that are inviting challenging and productive for ALL students	Students (All)	included		passive	beneficialization by nominalization
silent patience is urged	Team	excluded		backgrounded	impersonalization by abstraction
Multiple Perspectives	Team	excluded		backgrounded	passive agent deletion
multiple perspectives can be challenging at times they are critical to the development of the accurate complete development of shared knowledge	Team	excluded		backgrounded	impersonalization by abstraction
Flexibility and Patience	Team	excluded		backgrounded	impersonalization by abstraction
there is a tremendous human tendency to suggest possible solutions before the concerns have been adequately identified	Team	excluded		backgrounded	abstraction

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
information that can be used to guide collaborative decisions about services that foster the educational success of students with disabilities	Team	excluded		backgrounded	
the principles of the SETT Framework have been used to guide decisions about a much broader range of educational services	Team	excluded		backgrounded	
Collaboration is not only critical for the SETT Framework	Team	excluded		backgrounded	
enough shared knowledge to make informed reasonable decisions	Team	excluded		backgrounded	
What is(are) the functional area(s) of concern	Team	excluded		backgrounded	
Expectations and concerns	Team	excluded		backgrounded	
decisions about Tools	Team	excluded		backgrounded	passive agent deletion
are most valid when they are made based not on the knowledge that one person has (or believes that they have) but based on an agreed-upon mutually valid shared knowledge	Team	excluded		backgrounded	
Shared knowledge can only be developed if the opinions ideas observations and suggestions are respected and respectful	Team	excluded		backgrounded	

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
Not only are the multiple professional perspectives important to include	Team	excluded		backgrounded	impersonalization by abstraction
Knowing where to draw the line in important	Team	excluded		backgrounded	nominalization
concern-identification	Team	excluded		backgrounded	nominalization
it is important to revisit the SETT Framework information periodically to determine if the information that is guiding decision-making and implementation is accurate up to date and clearly reflects the shared knowledge of all involved	Team	excluded		backgrounded	passive agent deletion and nominalization
When data is gathered and organized with simplicity	Team	excluded		backgrounded	
it is possible from the start to address and overcome many of the obstacles which lead to abandonment or ?under implementation? of Tools	Team	excluded		backgrounded	passive agent deletion
Shared Knowledge	Team	excluded		backgrounded	nominalization
Decision-making in educational settings involves ongoing processes	Team	excluded		backgrounded	nominalization
How is the S-E-T Information used to think about Tools	Team	excluded		backgrounded	passive agent deletion

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
When determining what the needs to be in the system of Tools	Team	excluded		backgrounded	passive agent deletion
When the Environment and the Tasks are fully explored and considered the lament "Well I tried that but it didn?t work" is much less likely to be heard	Team	excluded		backgrounded	passive agent deletion
Is it expected that the student will not be able to make reasonable progress toward educational goals without assistive technology devices and services?	Team	excluded		backgrounded	passive agent deletion
describe what a useful system of supports devices and services for the student would be like if there were such a system of Tools	Team	excluded		backgrounded	passive agent deletion
Brainstorm specific Tools that could be included in a system that addresses student needs	Team	excluded		backgrounded	passive agent deletion
Select the most promising Tools for trials in the natural environments	Team	excluded		backgrounded	passive agent deletion
Plan the specifics of the trial	Team	excluded		backgrounded	passive agent deletion
Does use of the SETT Framework require using a specific process	Team	excluded		backgrounded	passive agent deletion
What are the critical elements of using the SETT Framework	Team	excluded		backgrounded	passive agent deletion

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
the particular phase of service delivery is being discussed	Team	excluded		backgrounded	passive agent deletion
Collaboration	Team	excluded		backgrounded	passive agent deletion
Communication	Team	excluded		backgrounded	passive agent deletion
Whatever conclusions are reached at any point	Team	excluded		backgrounded	passive agent deletion
the selected system of tools	Team	excluded		backgrounded	passive agent deletion
Using the SETT Framework as a guide	Team	excluded		backgrounded	passive agent deletion
Collect data on effectiveness	Team	excluded		backgrounded	passive agent deletion
As each of these questions is explored it is likely that many other questions will arise	Team	excluded		backgrounded	
Everyone involved brings different knowledge skills experience and ideas to the table.	Team	included		active	indetermination
Even when a team member thinks of the "perfect" solution silent patience is urged	Team	included		active	
students parents and professionals should all rejoice at the increased opportunities for success	Team	included		active	

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
The SETT Framework is a tool that helps teams gather and organize information	Team	included		active	
in order to develop an appropriate system of Tools (supports ?devices services strategies accommodations modifications etc.) teams must first develop a shared understanding	Team	included		active	
teams are able to consider what needs to be included in a system of tools	Team	included		active	
What questions does the team ask	Team	included		active	
The team continues the exploration until there is consensus	Team	included		active	
team members analyze the information gathered on the Student	Team	included		active	
While the individual processes that a team uses to implement the SETT Framework will vary	Team	included		active	
a team's ability to effectively generate a range of Tools	Team	included		active	
collaborators are urged	Team	included		passive	subjection
They provide teams with a place to begin and support the building of strong processes	Team	included		passive	beneficialization

TABLE IX (continued)

Quote from Zabala, 2005	Actor	Include/ Exclude	Action Verb	Type of Include/Exclude	Further Analysis
the SETT Scaffolds help teams remember and attend to issues that might be missed without guidance	Team	included		passive	beneficialization
When a solution springs to mind collaborators are urged NOT to voice it until it is time to talk about the Tools	Team	included		passive	subjection

TABLE X

COMPLETE ANALYSIS OF SOCIAL ACTIONS

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Title	excluded	excluded	team backgrounded	team	using	activation	
Title	SETT	SETT		SETT	level	activation	
Sentence 1	SETT	SETT		SETT	helps	activation	
Sentence 1	teams	team		team	gather	activation	
Sentence 1	teams	team		team	organize	activation	
Sentence 1	excluded	excluded	team backgrounded	team	used	deactivation	
Sentence 1	SETT	SETT		SETT	to guide	activation	
Sentence 1	excluded	excluded	team backgrounded	team	decisions	deactivation	objectivation because "decisions" is nominalized
Sentence 1	services	team	team backgrounded	team	foster	activation	

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 1	students with disabilities	student		student	success	deactivation	descriptivization because "success" describes the student
Sentence 2	excluded	excluded	author suppressed	author	developed	activation	
Sentence 2	excluded	excluded	team backgrounded	team	to support	deactivation	
Sentence 2	excluded	excluded	team backgrounded	team	selection (to select)	deactivation	verb is nominalized
Sentence 2	excluded	excluded	student backgrounded	student	use (to use)	deactivation	verb is nominalized
Sentence 2	excluded	excluded	team backgrounded	team	have been used	activation	
Sentence 2	principles	SETT		SETT	to guide	activation	
Sentence 2	excluded	excluded	team backgrounded	team	decisions	deactivation	verb is nominalized
Sentence 3							
Sentence 4	excluded	excluded	author suppressed	author	based	deactivation	
Sentence 4	excluded	excluded	team backgrounded	team	to develop	deactivation	verb is a process noun

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 4	excluded	excluded	team backgrounded	team	services (to serve)	deactivation	verb is nominalized
Sentence 4	excluded	excluded	team backgrounded	team	accommodations (to accommodate)	deactivation	verb is nominalized
Sentence 4	excluded	excluded	team backgrounded	team	modifications (to modify)	deactivation	verb is nominalized
Sentence 4	teams	team		team	develop	activation	
Sentence 4	teams	team		team	shared	deactivation	
Sentence 4	student	student		student	spends	activation	
Sentence 4	excluded	excluded	educational system suppressed	educational system	required	deactivation	
Sentence 4	student	student		student	to do	deactivation	the verb is positioned as a description of the student rather than an active process

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 4	Student	student		student	learn	deactivation	the verb is positioned as a description of the student rather than an active process
Sentence 4	student	student		student	participant (to participate)	deactivation	verb is nominalized
Sentence 4	processes	educational system		educational system	lead	activation	
Sentence 4	student	student		student	success (to succeed)	deactivation	verb is nominalized
Sentence 5	student	student		student	needs (to need)	deactivation	verb is nominalized
Sentence 5	student	student		student	abilities (to be able)	deactivation	verb is nominalized
Sentence 5	student	student		student	interests (to be interested)	deactivation	verb is nominalized
Sentence 5	excluded	excluded	educational system suppressed	educational system	required	deactivation	verb is depicted as a natural process
Sentence 5	teams	team		team	explored	activation	
Sentence 5	teams	team		team	to consider	activation	

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 5	Excluded	excluded	team backgrounded	team	included	deactivation	verb is depicted as a quality of the process
Sentence 5	excluded	excluded	team backgrounded	team	centered	deactivation	verb is descriptive
Sentence 5	excluded	excluded	team backgrounded	team	useful (to use)	deactivation	verb is descriptive
Sentence 5	excluded	excluded	team backgrounded	team	focused	deactivation	verb is descriptive
Sentence 6	team	team		team	ask	activation	
Sentence 7	Eugene	Eugene		Eugene	said	activation	embedded quote elevates an individual actor to enhance credibility
Sentence 8	excluded	excluded	author suppressed	author	expected	deactivation	who expects?
Sentence 8	questions	SETT		SETT	to guide	activation	subject of verb is not a human
Sentence 8	questions	SETT		SETT	deepen	activation	
Sentence 9	excluded	excluded	team backgrounded	team	explored	activation	
Sentence 9	questions	SETT		SETT	will arise	deactivation	who asks the questions?

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 10	Team	team		team	continues	activation	
Sentence 10	team	team		team	exploration (to explore)	deactivation	verb is nominalized
Sentence 12	excluded	excluded	team backgrounded	team	concern	deactivation	who is concerned?
Sentence 13	student	student		student	need	deactivation	need is an affective process represented as a quality of the student
Sentence 13	student	student		student	to do	deactivation	verb is a description of the student
Sentence 14	student	student		student	needs (to need)	deactivation	verb is a description of the student
Sentence 14	excluded	excluded	team backgrounded	team	concern	deactivation	who is concerned?
Sentence 15	student	student		student	abilities (to be able)	deactivation	verb is nominalized
Sentence 15	excluded	excluded	team backgrounded	team	concern	deactivation	who is concerned?

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 16	excluded	excluded	team backgrounded	team	expectations (to expect)	deactivation	expectation is a cognitive process. The verb is nominalized
Sentence 16	excluded	excluded	team backgrounded	team	concerns (to be concerned)	deactivation	Concern is an affective process. Verb is nominalized. It's not clear whether the expectations belong to the student or to somebody else.
Sentence 17	student	student		student	interests (to be interested)	deactivation	verb is nominalized
Sentence 17	student	student		student	preferences (to prefer)	deactivation	verb is nominalized
Sentence 19	excluded	excluded	educational system suppressed	educational system	arrangement (to arrange)	deactivation	who arranges the environment?
Sentence 20	excluded	excluded	educational system suppressed	educational system	support (to support)	deactivation	who supports the student and staff?

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 21	others	others		others	used	deactivation	verb is descriptive of materials and equipment
Sentence 22	excluded	excluded	student backgrounded	student	issues (to take issue)	deactivation	who takes issue with environmental access?
Sentence 23	staff	staff		staff	expectations	deactivation	verb is nominalized
Sentence 23	family	parents		parents	expectations	deactivation	verb is nominalized
Sentence 23	other	others		others	expectations	deactivation	verb is nominalized
Sentence 25	excluded	excluded	educational system suppressed	educational system	occur	activation	eventuation: tasks are represented as simply "happening" rather than being caused to happen
Sentence 25	excluded	excluded	educational system suppressed	educational system	enable	deactivation	verb is descriptive of tasks
Sentence 25	excluded	excluded	student backgrounded	student	mastery (to master)	deactivation	verb is nominalized

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 26	excluded	excluded	educational system suppressed	education al system	required	deactivation	verb is descriptive of tasks and appears to just exist
Sentence 26	excluded	excluded	team backgrounded	team	identified (to identify)	deactivation	verb describes environments
Sentence 26	excluded	excluded	student backgrounded	student	communication (to communicate)	deactivation	verb is nominalized. Student is assumed agent
Sentence 26	excluded	excluded	educational system suppressed	education al system	instruction (to instruct)	deactivation	verb is nominalized. Teacher would be assumed agent of instruction.
Sentence 26	excluded	excluded	student backgrounded	student	participation (to participate)	deactivation	verb is nominalized. Student is assumed agent
Sentence 26	excluded	excluded	student backgrounded	student	productivity (to produce)	deactivation	verb is nominalized. Student is assumed agent

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 26	Excluded	excluded	student backgrounded	student	control (to control)	deactivation	verb is nominalized. Student is assumed agent
Sentence 27	excluded	excluded	team backgrounded	team	used	activation	use is represented as
Sentence 28	excluded	excluded	team backgrounded	team	services (to serve)	deactivation	verb is nominalized
Sentence 28	excluded	excluded	team backgrounded	team	training (to train)	deactivation	verb is nominalized
Sentence 28	excluded	excluded	team backgrounded	team	accommodations (to accommodate)	deactivation	verb is nominalized
Sentence 28	excluded	excluded	team backgrounded	team	modifications (to modify)	deactivation	verb is nominalized
Sentence 28	excluded	excluded	educational system suppressed	educational system	needed	deactivation	verb is descriptive
Sentence 28	excluded	excluded	team backgrounded	team	to help	activation	
Sentence 28	student	student		student	succeed	activation	
Sentence 29	parts of the Tool system	SETT		SETT	address	deactivation	verb is descriptive
Sentence 29	student	student		student	needs (to need)	deactivation	verb is a description of the student

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 29	excluded	excluded	student backgrounded	student	access (to access)	deactivation	verb is nominalized
Sentence 29	excluded	excluded	student backgrounded	student	accessibility (to access)	deactivation	verb is nominalized
Sentence 29	excluded	excluded	educational system suppressed	educational system	support (to support)	deactivation	verb is nominalized
Sentence 29	staff	staff		staff	develop	activation	
Sentence 29	staff	staff		staff	sustain	activation	
Sentence 29	environments	environment	educational system suppressed	educational system	inviting (to invite)	deactivation	
Sentence 29	environments	environment	educational system suppressed	educational system	challenging (to challenge)	deactivation	
Sentence 29	All students	all students		all students	productive (to produce)	deactivation	
Sentence 29	students	student		student	abilities (to be able)	deactivation	verb is a description of the student
Sentence 29	students	student		student	needs (to need)	deactivation	verb is a description of the student

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 30	team members	team		team	determining (to determine)	deactivation	verb is process
Sentence 30	excluded	excluded	team backgrounded	team	to support	activation	
Sentence 30	excluded	excluded	team backgrounded	team	to increase	activation	
Sentence 30	student	student		student	achievement (to achieve)	deactivation	verb is nominalized
Sentence 30	team members	team		team	analyze	activation	
Sentence 30	team members	team		team	gathered	activation	
Sentence 30	team members	team		team	to address	deactivation	verb is represented as a process
Sentence 31	excluded	excluded	team backgrounded	team	expected	deactivation	who expects?
Sentence 31	student	student		student	able	deactivation	verb is a description of the student
Sentence 31	student	student		student	progress (to progress)	deactivation	verb is nominalized
Sentence 31	excluded	excluded	team backgrounded	team	services (to serve)	deactivation	verb is nominalized
Sentence 32	excluded	excluded	team backgrounded	team	describe	activation	team is assumed agent

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 32	excluded	excluded	team backgrounded	team	services (to serve)	deactivation	
Sentence 33	excluded	excluded	team backgrounded	team	brainstorm	activation	team is assumed agent
Sentence 33	excluded	excluded	team backgrounded	team	included	activation	
Sentence 33	excluded	excluded	team backgrounded	team	addresses	deactivation	verb is descriptive of the system
Sentence 34	excluded	excluded	team backgrounded	team	select	activation	team is assumed agent
Sentence 34	excluded	excluded	student backgrounded	team	trials (to try)	deactivation	
Sentence 35	excluded	excluded	team backgrounded	team	plan	activation	
Sentence 35	excluded	excluded	team backgrounded	team	expected	deactivation	
Sentence 35	excluded	excluded	student backgrounded	student	used	activation	student is assumed agent
Sentence 36	excluded	excluded	team backgrounded	team	collect	activation	team is assumed agent
Sentence 37	excluded	excluded	team backgrounded	team	use (to use)	deactivation	verb is nominalized
Sentence 37	excluded	excluded	author suppressed	author	require	activation	who requires?

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 37	Excluded	excluded	team backgrounded	team	using	activation	
Sentence 38	excluded	excluded	author suppressed	author	requiring	activation	objectivation of agent
Sentence 38	excluded	excluded	team backgrounded	team	implementation (to implement)	deactivation	verb is nominalized
Sentence 38	excluded	excluded	educational system suppressed	educational system	validity (to validate)	deactivation	verb is nominalized
Sentence 39	excluded	excluded	team backgrounded	team	keep	activation	who should keep in mind?
Sentence 39	excluded	excluded	educational system suppressed	educational system	required	activation	who requires?
Sentence 39	excluded	excluded	team backgrounded	team	implementation (to implement)	deactivation	
Sentence 39	excluded	excluded	author suppressed	author	encouraged	deactivation	who encourages?
Sentence 39	people	team		team	imbed	activation	
Sentence 39	excluded	excluded	team backgrounded	team	use	activation	
Sentence 39	excluded	excluded	team backgrounded	team	referral (to refer)	deactivation	
Sentence 39	excluded	excluded	team backgrounded	team	development (to develop)	deactivation	

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 39	excluded	excluded	team backgrounded	team	planning (to plan)	deactivation	
Sentence 39	excluded	excluded	team backgrounded	team	evaluation (to evaluate)	deactivation	
Sentence 39	people	team		team	include	activation	
Sentence 39	excluded	excluded	educational system suppressed	educational system	development (to develop)	deactivation	verb is nominalized
Sentence 39	excluded	excluded	educational system suppressed	educational system	required	deactivation	verb is descriptive of processes
Sentence 40	excluded	excluded	author suppressed	author	said	deactivation	
Sentence 41	people	team		team	requested	activation	
Sentence 41	excluded	excluded	author suppressed	author	fits	activation	
Sentence 41	excluded	excluded	author suppressed	author	developed	activation	who is developing?
Sentence 41	excluded	excluded	team backgrounded	team	begin	deactivation	verb is descriptive of place
Sentence 42	excluded	excluded	author suppressed	author	known	deactivation	who is doing the cognitive process of knowing

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 43	Excluded	excluded	generic actor	generic actor	used	activation	
Sentence 43	excluded	excluded	generic actor	generic actor	support	activation	
Sentence 43	excluded	excluded	generic actor	generic actor	developed	activation	
Sentence 43	excluded	excluded	generic actor	generic actor	provide	activation	
Sentence 43	excluded	excluded	generic actor	generic actor	to reach	deactivation	
Sentence 44							
Sentence 45	scaffolds	scaffolds	author suppressed	author	provide	activation	
Sentence 45	teams	team		team	to begin	deactivation	
Sentence 45	scaffolds	scaffolds	author suppressed	author	support	activation	
Sentence 45	excluded	excluded	team backgrounded	team	building	activation	
Sentence 45	excluded	excluded	team backgrounded	team	imbedded	deactivation	verb describes processes
Sentence 45	excluded	excluded	team backgrounded	team	aligned	deactivation	verb describes processes
Sentence 46	excluded	excluded	team backgrounded	team	development (to develop)	deactivation	

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 46	SETT	SETT		SETT	help	activation	
Sentence 46	teams	team		team	remember	activation	
Sentence 46	teams	team		team	attend	activation	
Sentence 46	teams	team		team	missed	activation	
Sentence 46	excluded	excluded	author suppressed	author	guidance (to guide)	deactivation	
Sentence 47	excluded	excluded	team backgrounded	team	used	activation	
Sentence 47	excluded	excluded	team backgrounded	team	maintained	deactivation	
Sentence 48	excluded	excluded	team backgrounded	team	using	deactivation	verb is process
Sentence 49	team	team		team	uses	activation	
Sentence 49	team	team		team	to implement	activation	
Sentence 49	processes	team		team	vary	activation	naturalization
Sentence 49	processes	team		team	based	deactivation	
Sentence 49	team	team		team	discussed	activation	

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 49	Excluded	excluded	educational system suppressed	education al system	challenges (to challenge)	deactivation	the environment is represented as creating the challenge rather than any social agent
Sentence 49	excluded	excluded	educational system suppressed	education al system	facilitators (to facilitate)	deactivation	who facilitates the environment?
Sentence 49	excluded	excluded	team backgrounded	team	used	deactivation	team is assumed agent
Sentence 49	excluded	excluded	team backgrounded	team	included	deactivation	who must include them?
Sentence 51	excluded	excluded	team backgrounded	team	shared	deactivation	verb describes knowledge
Sentence 51	excluded	excluded	team backgrounded	team	decisions (to decide)	deactivation	verb is nominalized
Sentence 51	excluded	excluded	student backgrounded	student	needed	activation	who needs them?
Sentence 51	student	student		student	succeed	activation	
Sentence 51	others	others		others	succeed	activation	
Sentence 51	excluded	excluded	educational system suppressed	education al system	valid (to validate)	deactivation	verb is nominalized

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 51	Excluded	excluded	team backgrounded	team	made	activation	
Sentence 51	one person	team		team	believes	activation	
Sentence 51	excluded	excluded	team backgrounded	team	agreed-upon (to agree)	deactivation	
Sentence 51	excluded	excluded	team backgrounded	team	valid (to validate)	deactivation	
Sentence 51	excluded	excluded	team backgrounded	team	shared	deactivation	verb describes knowledge
Sentence 52	excluded	excluded	team backgrounded	team	collaboration (to collaborate)	deactivation	team is assumed agent
Sentence 52	SETT	SETT		SETT	requires	activation	
Sentence 52	SETT	SETT		SETT	supports	activation	
Sentence 52	people	team		team	involved	activation	
Sentence 52	people	team		team	decision-making (to decide)	deactivation	verb is nominalized
Sentence 52	those	student and staff		student and staff	impacted	deactivation	
Sentence 52	excluded	excluded	team backgrounded	team	decisions (to decide)	deactivation	verb is nominalized
Sentence 53	excluded	excluded	team backgrounded	team	gaining	activation	

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 53	Excluded	excluded	student or staff backgrounded	student and staff	buy-in (metaphor for "to agree to")	deactivation	
Sentence 53	excluded	excluded	team backgrounded	team	implementation (to implement)	deactivation	
Sentence 53	excluded	excluded	team backgrounded	team	decisions (to decide)	deactivation	
Sentence 54	excluded	excluded	team backgrounded	team	communication (to communicate)	deactivation	team is assumed agent
Sentence 54	SETT	SETT		SETT	requires	activation	
Sentence 54	people	team		team	communicate	activation	
Sentence 55	excluded	excluded	team backgrounded	team	shared	deactivation	verb describes knowledge
Sentence 55	excluded	excluded	team backgrounded	team	developed	activation	
Sentence 55	excluded	excluded	team backgrounded	team	observations (to observe)	deactivation	
Sentence 55	excluded	excluded	team backgrounded	team	suggestions (to suggest)	deactivation	
Sentence 55	excluded	excluded	team backgrounded	team	respected	activation	
Sentence 56	excluded	excluded	team backgrounded	team	perspectives (to perceive)	deactivation	verb is nominalized
Sentence 56	everyone	team		team	brings	activation	

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 56	everyone	team		team	knowledge (to know)	deactivation	verb is nominalized
Sentence 56	everyone	team		team	experience (to experience)	deactivation	verb is nominalized
Sentence 57	excluded	excluded	team backgrounded	team	perspectives (to perceive)	deactivation	verb is nominalized
Sentence 57	excluded	excluded	team backgrounded	team	challenging (to challenge)	deactivation	
Sentence 57	excluded	excluded	team backgrounded	team	development (to develop)	deactivation	verb is nominalized
Sentence 57	excluded	excluded	team backgrounded	team	development (to develop)	deactivation	verb is nominalized
Sentence 57	excluded	excluded	team backgrounded	team	shared	deactivation	verb describes knowledge
Sentence 58	professional	team		team	perspectives (to perceive)	deactivation	verb is nominalized
Sentence 58	excluded	excluded	team backgrounded	team	include	activation	team is assumed agent
Sentence 59	excluded	excluded	team backgrounded	team	make	activation	
Sentence 59	excluded	excluded	student backgrounded	student	success (to succeed)	deactivation	
Sentence 60	excluded	excluded	team backgrounded	team	information (to inform)	deactivation	verb is nominalized
Sentence 60	excluded	excluded	team backgrounded	team	decision-making (to decide)	deactivation	verb is nominalized

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 61	Excluded	excluded	team backgrounded	team	knowing	activation	who does the knowing?
Sentence 61	excluded	excluded	team backgrounded	team	draw	activation	who draws the line?
Sentence 61	line	excluded	team backgrounded	team	moving	deactivation	verb describes target
Sentence 62	excluded	excluded	team backgrounded	team	flexibility (to flex)	deactivation	
Sentence 62	excluded	excluded	team backgrounded	team	working	activation	
Sentence 62	excluded	excluded	team backgrounded	team	using	activation	
Sentence 62	excluded	excluded	team backgrounded	team	identification (to identify)	deactivation	
Sentence 62	excluded	excluded	team backgrounded	team	seeking (to seek)	deactivation	
Sentence 62	human tendency	team	team backgrounded	team	to suggest	activation	
Sentence 62	excluded	excluded	team backgrounded	team	identified	activation	
Sentence 63	solution	team	team backgrounded	team	springs	activation	
Sentence 63	excluded	excluded	author suppressed	author	urged	activation	
Sentence 63	collaborators	team		team	to voice	activation	

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 63	excluded	excluded	team backgrounded	team	to talk	deactivation	verb describes time
Sentence 63	excluded	excluded	team backgrounded	team	mentioned	activation	
Sentence 63	conversation	team	team backgrounded	team	shifts	activation	
Sentence 63	excluded	excluded	team backgrounded	team	identification (to identify)	deactivation	verb is nominalized
Sentence 63	excluded	excluded	team backgrounded	team	determining (to determine)	deactivation	verb is represented as a process
Sentence 63	excluded	excluded	team backgrounded	team	suggested	activation	
Sentence 64	team member	team		team	thinks	activation	
Sentence 64	excluded	excluded	author suppressed	author	urged	activation	
Sentence 65	excluded	excluded	team backgrounded	team	look (to look)	deactivation	
Sentence 65	excluded	excluded	team backgrounded	team	discussed	activation	
Sentence 66	excluded	excluded	team backgrounded	team	on-going (to go)	deactivation	verb is descriptive of processes
Sentence 66	excluded	excluded	team backgrounded	team	decision-making (to decide)	deactivation	verb is nominalized

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 66	excluded	excluded	team backgrounded	team	on-going (to go)	deactivation	verb is descriptive of processes
Sentence 67	excluded	excluded	team backgrounded	team	conclusions (to conclude)	deactivation	
Sentence 67	excluded	excluded	team backgrounded	team	reached	activation	
Sentence 67	excluded	excluded	educational system suppressed	educational system	valid (to validate)	deactivation	
Sentence 67	evidence	team	team backgrounded	team	shows	activation	
Sentence 67	conclusions	team	team backgrounded	team	successful (to succeed)	deactivation	verb describes conclusions
Sentence 67	conclusions	team	team backgrounded	team	lowering (to lower)	activation	significant in terms of the word "barriers"
Sentence 67	student	student		student	achievement (to achieve)	deactivation	
Sentence 68	excluded	excluded	author suppressed	author	expected	activation	
Sentence 68	SETT	SETT		SETT	useful (to use)	deactivation	verb describes SETT
Sentence 68	excluded	excluded	team backgrounded	team	delivery (to deliver)	deactivation	

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 69	excluded	excluded	team backgrounded	team	revisit	activation	
Sentence 69	excluded	excluded	team backgrounded	team	information (to inform)	deactivation	
Sentence 69	excluded	excluded	team backgrounded	team	to determine	activation	
Sentence 69	information	team	team backgrounded	team	guiding	activation	
Sentence 69	excluded	excluded	team backgrounded	team	decision-making (to decide)	deactivation	verb is nominalized
Sentence 69	excluded	excluded	team backgrounded	team	implementation (to implement)	deactivation	verb is nominalized
Sentence 69	information	team	team backgrounded	team	reflects	activation	
Sentence 69	excluded	excluded	team backgrounded	team	shared	deactivation	verb describes knowledge
Sentence 69	all	team		team	involved (to involve)	deactivation	verb is descriptive
Sentence 71	SETT	SETT		SETT	supports	activation	
Sentence 71	excluded	excluded	author suppressed	author	approach (to approach)	deactivation	verb is nominalized
Sentence 71	excluded	excluded	team backgrounded	team	assessment (to assess)	deactivation	verb is nominalized
Sentence 71	excluded	excluded	team backgrounded	team	intervention (to intervene)	deactivation	verb is nominalized

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 72	Excluded	excluded	team backgrounded	team	gathered	activation	
Sentence 72	excluded	excluded	team backgrounded	team	organized	activation	
Sentence 72	team	team		team	ability (to be able)	deactivation	
Sentence 72	team	team		team	generate	activation	
Sentence 72	team	team		team	used	activation	
Sentence 72	team	team		team	support	activation	
Sentence 72	student	student		student	achievement (to achieve)	deactivation	
Sentence 72	excluded	excluded	SETT backgrounded	SETT	enhance	deactivation	
Sentence 73	excluded	excluded	team backgrounded	team	selected	deactivation	verb describes system
Sentence 73	system of tools	SETT		SETT	enhance	activation	
Sentence 73	student	student		student	abilities (to be able)	deactivation	
Sentence 73	student	student		student	address	deactivation	verb describes abilities

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 73	Excluded	excluded	educational system suppressed	education al system	expected	activation	
Sentence 73	student	student		student	to build	activation	
Sentence 73	excluded	excluded	team backgrounded	team	making	activation	
Sentence 73	excluded	excluded	student backgrounded	student	valuable (to value)	deactivation	
Sentence 74	people	staff		staff	supporting	deactivation	verb describes people
Sentence 74	people	staff		staff	see	activation	
Sentence 74	people	staff		staff	using	activation	
Sentence 74	student	student		student	grows	activation	
Sentence 74	people	staff		staff	active (to act)	deactivation	verb describes people
Sentence 74	people	staff		staff	encouraging	activation	
Sentence 74	people	staff		staff	supporting	activation	
Sentence 74	student	student		student	achievement	deactivation	verb is nominalized

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 74	excluded	excluded	team backgrounded	team	use	deactivation	verb is nominalized
Sentence 75	excluded	excluded	team backgrounded	team	using	activation	
Sentence 75	SETT	SETT		SETT	a guide (to guide)	deactivation	
Sentence 75	excluded	excluded	team backgrounded	team	to address	activation	
Sentence 75	excluded	excluded	team backgrounded	team	to overcome	activation	
Sentence 75	obstacles	obstacles	team backgrounded	team	lead	activation	
Sentence 75	excluded	excluded	team backgrounded	team	implementation (to implement)	deactivation	
Sentence 76	excluded	excluded	team backgrounded	team	explored	activation	team is assumed agent
Sentence 76	excluded	excluded	team backgrounded	team	considered	activation	team is assumed agent
Sentence 76	excluded	excluded	team backgrounded	team	lament (to lament)	deactivation	embedded quote elevates an individual actor (in this case, a fictional one) to enhance credibility

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 76	Excluded	excluded	team backgrounded	team	heard (to hear)	deactivation	verb describes lament
Sentence 77	students	student		student	rejoice	activation	
Sentence 77	parents	parents		parents	rejoice	activation	
Sentence 77	professionals	team		team	rejoice	activation	
Sentence 77	excluded	excluded	team backgrounded	team	increased (to increase)	deactivation	verb describes opportunities
Sentence 77	excluded	excluded	student backgrounded	student	success (to succeed)	deactivation	
Sentence 77	opportunities	opportunities	team backgrounded	team	come	activation	verb is metaphorical
Sentence 77	excluded	excluded	team backgrounded	team	services (to serve)	deactivation	verb is nominalized
Sentence 77	excluded	excluded	team backgrounded	team	accommodations (to accommodate)	deactivation	verb is nominalized
Sentence 77	excluded	excluded	team backgrounded	team	modifications (to modify)	deactivation	verb is nominalized
Sentence 77	excluded	excluded	team backgrounded	team	training (to train)	deactivation	verb is nominalized
Sentence 77	excluded	excluded	team backgrounded	team	matched	activation	
Sentence 77	student	student		student	needs (to need)	deactivation	verb describes student

TABLE X (continued)

Quote*	Actor	Recoded Actor	Analysis of Exclusion	All Actors Recoded	Verb	Activation/ Deactivation	Additional Type
Sentence 77	Student	student		student	abilities (to be able)	deactivation	verb describes student
Sentence 77	student	student		student	perform	deactivation	verb describes abilities
Sentence 77	excluded	excluded	generic actor	generic actor	living	activation	
Sentence 77	excluded	excluded	generic actor	generic actor	learning	activation	

* *Note*: Sentence numbers refer to sentences in Zabala, 2005 document

TABLE XI

SAMPLE OF AT MANUALS REFERENCING THE SETT FRAMEWORK

State	Document Title	Organization	Retrieved From
Florida	Accommodations: Assisting Students with Disabilities, 3rd Ed.*	Bureau of Exceptional Education and Student Services, Florida Department of Education	http://www.fldoe.org/ese/pdf/accomm-educator.pdf
Minnesota	Minnesota Assistive Technology Manual, 2003 Ed.	Division of Special Education, Minnesota Dept. of Children, Families and Learning	http://education.state.mn.us/mdeprod/idcplg?IdcService=GET_FILE&dDocName=004273&RevisionSelectionMethod=latestReleased&Rendition=primary
Montana	Assistive Technology: A Special Education Guide to Assistive Technology	Division of Special Education, Montana Office of Public Instruction	http://opi.mt.gov/pdf/SpecED/guides/AssistiveTechGuide.pdf
Ohio	Assistive Technology Resource Guide	Ohio AT Network	http://www.ocali.org/_archive/pdf_at_guide/AT_Guide.pdf
Oregon	Assistive Technology Model Operating Guidelines for School Districts and IEP Teams	Oregon Technology Access Program	http://www.otap-oregon.org/Documents/AT%20Model%20Operating%20Guidelines.pdf
Virginia	Assistive Technology: A Framework for Consideration and Assessment	Virginia Department of Education	http://www.doe.virginia.gov/special_ed/iep_instruct_svcs/assistive_technology/framework_assistive_technology.pdf
Wisconsin	Assessing Students' Needs for Assistive Technology: A Resource Manual for School District Teams, 5th Ed.	Wisconsin Assistive Technology Initiative	http://www.wati.org/content/supports/free/pdf/ASNAT5thEditionJun09.pdf

* *Note*: Florida document is not an AT manual per se, but includes AT as a type of accommodation.

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Notice of Determination of Human Subject Research

November 11, 2011

20110989-64183-1

Daniel Cochrane, MS
Disability and Human Development
1120 Unit A, Des Plaines Ave
Forest Park, IL 60130
Phone: (630) 854-3141

RE: **Protocol # 2011-0989**
        Constructing the Student in Contrasting Models of Assistive Technology in Education

Dear Daniel Cochrane:

☒The UIC Office for the Protection of Research Subjects received your "Determination of Whether an Activity Represents Human Subjects Research" application, and has determined that this activity **DOES <u>NOT</u> meet the definition of human subject research** as defined by 45 CFR 46.102(f).

You may conduct your activity without further submission to the IRB.

If this activity is used in conjunction with any other research involving human subjects or if it is modified in any way, it must be re-reviewed by OPRS staff.

☐ The UIC Office for the Protection of Research Subjects received your "Determination of Whether an Activity Represents Human Subjects Research" application, and has determined that this activity **DOES meet the definition of human subject research** as defined by 45 CFR 46.102(f).

You must submit either a Claim of Exemption or an Initial Review Application for IRB review. Your research cannot be conducted until written notice of an exemption determination or IRB approval has been granted.

For guidance on submitting your application, please refer to the guidance at:
http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/index.shtml

Phone: 312-996-1711   http://www.uic.edu/depts/ovcr/oprs/   Fax: 312-413-2929

CITED LITERATURE

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