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Instructional Technology and Objectification

Bekir S. Gur

David A. Wiley

Authors

Bekir S. Gur is a Postdoctoral researcher at The Center for Open and Sustainable Learning (COSL), Utah State University. Correspondence regarding this article can be e-mailed to: bekir@cc.usu.edu

David A. Wiley is an Associative Professor and the Director of COS, Department of Instructional Technology and The Center for Open and Sustainable Learning (COSL), Utah State University. He can be reached by e-mail: david.wiley@usu.edu

Abstract

Abstract: Objectification refers to the way in which everything (including human beings) is treated as an object, raw material, or resource to be manipulated and used. In this article, objectification refers to the way that education is often reduced to the packaging and delivery of information. A critique of objectification in instructional technology is presented. In the context of Heidegger's critique of technology, the authors claim that objectification in education is metaphysical in the sense that the intelligibility (being) of education is equated with ready-to-use packages, and thus is reduced to delivery and transmission of objects. The embodiment dimension of teaching and learning can help us in resisting this reduction. The authors argue that objectification increases bureaucratic control over the teaching process and deskills teachers; and by which teachers are proletarianized. The authors conclude that instructional designers should create structures in which a care relation and dialogue between students and teachers can take place.

Résumé: L'objectification réfère à la façon dont tout (incluant les être humains) est traité comme un objet, une matière première ou une ressource qui peut être manipulée et utilisée. Dans cet article, l'objectification réfère à la façon dont l'éducation est souvent réduite à la mise en boîte et à la livraison de l'information. Une critique de l'objectification en technologie éducative est présentée. Dans le contexte de la critique de la technologie par Heidegger, les auteurs prétendent que l'objectification en éducation est métaphysique dans le sens que l'intelligibilité (être) de l'éducation équivaut à la mise en boîte prêt-à –utiliser, et se résume donc à la livraison et à la

transmission d'objets. L'incarnation de l'enseignement et de l'apprentissage peuvent nous aider à résister à cette réduction. Les auteurs arguent que l'objectification augment le contrôle bureaucratique sur le processus d'enseignement et déqualifie les enseignants; de ce fait, les enseignants deviennent prolétariens. Les auteurs concluent que les technologues de l'éducation devraient créer des structures dans lesquelles une relation aidante et un dialogue entre l'étudiant et l'enseignant peuvent prendre place.

Instructional Technology and Objectification

Using metaphysics, phenomenology, and political economy, the purpose of this article is to provide a critique of objectification in education in order to reveal several problems associated with pre-packaged learning materials or education-as-artefacts as it relates to instructional technology (IT). In its broad sense, objectification refers to the way in which one treats everything (including human beings) as an object, raw material, or resource to be manipulated and used. Along with this broad sense, we use objectification specifically to refer to the way that education is often reduced to the packaging and delivery of information, in which process teaching is reduced to the transmission of information and courses are transformed into courseware.

Following Heidegger's critique of technology, the authors claim that the source of the problem of objectification of education is metaphysical in the sense that the intelligibility (being) of education is equated with ready-to-use packages, and thus education is reduced to the delivery and transmission of information packages. We discuss how recognizing the embodiment dimension of teaching and learning can help educators to resist this reduction. We also claim that objectification increases bureaucratic control over the teaching process and deskills teachers; by which teachers are proletarianized. We conclude that instructional designers should create structures in which a care relation and dialogue between students and teachers can take place.

Before we begin to examine objectification in instructional technology, it is useful to first define instructional technology. We follow the definition advanced by the Association for Educational Communications and Technology: IT is "the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning" (Seels & Richey, 1994, p. 1). The authors use the terms "instructional technology" and "educational technology" interchangeably in this article. We will also use the term "instructional design" (ID). As a subset of instructional technology, ID is "an organized procedure that includes the steps of analyzing, designing, developing, implementing and evaluating instruction" (Seels & Richey, p. 31). ID deals with designing effective instruction in an efficient and systematic manner. IT is a broader term than ID and refers to practices and theories (not only scientific theories but theory in its broadest sense) of using various technologies in learning and a systematic way of designing and development of instructional materials.

In 1973, Robert M. W. Travers, a former president of the American Educational Research Association, published an essay that critiqued educational technology. Travers pointed out that educational technology was itself modeled after other contemporary industrial enterprises and sought to change school by delivering educational packages:

> The doctor prescribes packaged medicines. The homeowner who wishes to improve his bathroom can buy a packaged shower door complete with installation instructions. The housewife covers up her culinary limitations by buying the packaged main dish which only needs heating. With the aid of federal programs, the expectation was that the teacher could hand out packaged education backed up by some kind of guarantee concerning utility. (p. 985)

This focus on packaging and delivering education has not diminished since the 1960s and 1970s. On the contrary, the rapid growth in distance and online learning has increased interest in packaging and delivering education. Interest in the use of learning objects is the latest manifestation of this powerful trend—learning objects are defined as "any entity, digital or non-digital, which can be used, re-used or referenced during technology supported learning" (The IEEE Learning Technology Standards Committee, 2005, para. 1). Instructional technologists have given attention to learning objects due to its potential for reusability in different learning contexts (Wiley, 2000, 2007). Moreover, a current trend in educational technology is a continuing increase in the use of individualized learning materials, rather than traditional face-to-face teaching situations (Ellington, Percival, & Race, 1993). It is worth noting that modern instructional technology has always been interested in instruction with little or no teacher intervention. According to Knirk and Gustafson (1986), the name change from "audio-visual education" department to "instructional technology" at Wayne State University in 1962 reflected "a move away from the 'aids' concept assisting teachers to teach and toward the concept of at least some materials being directly used by students without teacher intervention" (p. 9). Several advanced systems of individualized instruction developed in the 1960s (such as, Glaser's Individually Prescribed Instruction, Keller's Personalized System of Instruction, Bloom's mastery learning) and the interest in individualization increased due to computer-assisted instruction in 1970s and 1980s (Dick, 1987; Reiser, 1987). With these new approaches, "the teacher had a new role as manager and motivator" of learning (Dick, p. 189).

Focusing on packaging and delivering education is also clearly evident from the assumptions of some of the current instructional design models. In some models, the assumption is that the instructional products are going to be implemented by users other than the developers (Gustafson & Branch, 2002). In such situations, the assumption is that a teacher is not present and the product must be usable by learners with only managers or facilitators available. Similarly, in some educational contexts, the role of teacher is increasingly seen as implementer (e.g., Newby, Stepich, Lehman, & Russell, 2000) in which teachers follow a previously completed plan and instruction is developed into a finished product including lesson plans, assignments, activities, notes, computer programs, and so forth.

Let us give an example in order to show the pervasiveness of the role of teacher as "implementer" or "manager" of pre-packaged instruction. Shannon (1989) described one popular reading program in the U.S., *Moonbeams,* from the Hughton Mifflin Reading Series,

as follows:

> [T]he publisher offers stories for both instructional and recreational reading, charts listing examples so that teachers won't have to think of their own, workbooks, worksheets, "bonus" worksheets for practice, two forms of lesson tests, two forms of chapters tests (published in workbook or worksheet style for teachers' convenience), placement tests, vocabulary tests, floppy disks for scoring all the tests, record cards for keeping track of students' tests scores, administrators' guidebooks to help them manage the program more effectively, specially written monographs to offer research support for the program's suggestions, and letters and activities for teachers to send home to students' parents. That is, the goals, directions, practice, assessment, record keeping, and communication with parents are all prepared and packaged for teachers to use. (p. 82)

The reduction of the teachers' role to manager of commercially produced reading materials not only degrades teachers from their professional status, but also reduces and reifies school literacy to the completion of materials and to students' scores on standardized reading tests—in essence, ignoring how students develop critical literacy on their own (Shannon, 1989). IT, for the most part, has ignored these problems; and this should be critically questioned because, in a very real sense, pre-packaged instruction has become more prominent in some educational settings.

Outline of the Paper

In what follows, the authors deal with objectification from three different angles: metaphysics, phenomenology, and political economy. First, we focus on metaphysics in order to understand how the intelligibility/being of education is reduced into the *delivery* of packages ready to be used. Instructional technologists have not paid enough attention to the metaphysics that has provided the basis for their basic understandings and practices. Unless instructional technologists realize and question this metaphysical basis, we cannot present any substantive critique of objectification found in education. Metaphysically, we need to pay attention to how things have come to be this way and what the alternatives were and are. The authors present a brief overview of the Heidegger's genealogy and critique of modern technology (for a Deweyen perspective, see Dwight and Garrison [2003], who provide an interesting critique of metaphysics in IT and curriculum theory).

Second, acknowledging that literature on IT and critical, cultural studies on body (corporeality) are rarely brought together (McWilliam & Taylor, 1998), the authors offer a brief phenomenological discussion on the importance of embodiment in learning. Our aim is not to provide a compressive discussion on phenomenology; rather, specifically, we would like to understand why it is problematical to speak of "delivery" of learning using some phenomenological arguments on embodiment by Dreyfus and others.

Third, we believe that instructional technologists should ask "Who loses/gains by objectification of education?" Thus, in terms of political economy, we focus on the consequences of objectification on the profession of teaching, particularly how teachers are deskilled through the separation of conception (design) from execution (implementation), which has not been adequately addressed by instructional designers with few exceptions (Foley, 2003; Streibel, 1993; Winn, 1990). After a very brief discussion on education as a commodity, some of the political/economical problems regarding

mandating teachers to teach pre-designed materials are investigated.

We have limited ourselves to focus on the aforementioned perspectives specifically in order to understand (1) how we have come here (metaphysical), (2) how we can resist objectification (phenomenological), and (3) what are the consequences of objectification for the profession of teaching (political /economical). There has been some accommodation of critical perspectives in the field of instructional technology and many have published papers expressing concerns similar to those described in this paper (e.g., Damarin, 1994; Hlynka & Belland, 1991; Nichols & Allen-Brown, 1996; Nunan, 1983; Streibel, 1991; Yeaman, Koetting, & Nichols, 1994). We join these critical instructional technologists and invite other researchers to investigate objectification from similar or different viewpoints.

Metaphysics

The significance of Heidegger's philosophy of technology lies in that he analyzed technology with its relation to metaphysics (Heidegger, 1977). Heidegger deals with the problematical aspects regarding technological understanding of being. Heidegger was neither Luddite nor technophobe and his views cannot easily be categorized as either optimistic or pessimistic (Heim, 1993). For Heidegger, modern technology has three interrelated meanings (Zimmerman, 1990): (a) industrialism (production processes, techniques, devices, and systems), (b) modernity (rationalist, scientific, utilitarian, anthropocentric, secular worldview), (c) mode of disclosing things (e.g., "to be" means "to produce"). Heidegger insisted that the third meaning of modern technology is the most important one because both industrialism and modernity are symptoms of a particular mode of disclosing things. This mode of disclosing things was a product of Western metaphysics.

Heidegger argued that historically the West has undergone some ontological movements and those movements made possible particular ways of understanding the modes of disclosure. He maintained that the major periods in Western history (Greek, Roman, medieval, enlightenment, technological) mark the stages of ontology; in other words, these periods show different understandings of what it means for something "to be." According to Heidegger, for something "to be" means for it "to be disclosed" or "to be manifest." Things may manifest themselves as creatures of God or as standing reserve.

Heidegger (1977) noted that for something in our technological era "to be" means for it to be raw material, to be immediately at hand, or a standing-reserve (*Bestand*). The technological understanding of being views all things as nothing but raw material ready for production and consumption. The essence (*Wesen*) of modern technology is what Heidegger called *enframing* (*Gestell*). Enframing is the way in which things reveal themselves as standing-reserve. For Heidegger, the history of the West is the story of how the productionist metaphysics of the ancient Greeks gradually degenerated into modern technology (Zimmerman, 1990). The Greek founders of metaphysics defined the being of entities in a proto-technological way; for them, "to be" meant "to be produced."

According to Heidegger (1977), as a technological understanding of being, *enframing* (in this age of Nietzschean metaphysics) transforms all beings, including humans, into mere resources (*Bestand*): "entities lacking intrinsic meaning which are thus simply optimized and disposed of with maximal efficiency" (Thomson, 2001, p. 249). The logic of *enframing* as described by Heidegger is especially important for the purpose of this paper as this logic gives the illusion that everything (including education) consists of ready/pre-packaged resources (*Bestand*) waiting to be delivered. As a result of this productionist metaphysics, education is understood only as consisting of tangible objects. As such "teaching" is easily substituted by "delivery" (McWilliam & Taylor, 1998). Similarly, when teaching becomes a matter of delivery, the value of dialogue between teachers and students is lost. Thomson (2001) explains Heidegger in the following way:

> The technological move afoot to reduce teachers and scholars to "on-line content providers" merely extends –and so clarifies– the logic whereby modern subjects transform themselves into postmodern resources by turning techniques developed for controlling nature back onto themselves. Unfortunately, as this historical transformation of subjects into resources becomes more pervasive, it further eludes our critical gaze; indeed, we come to treat ourselves in the very terms which underlie our technological refashioning of the world: no longer as conscious Cartesian subjects taking control of an objective world, but rather as one more resource to be optimized, ordered, and enhanced with maximal efficiency—whether cosmetically, psychopharmacologically, or*educationally*. (pp. 249-250, italics in original)

According to The IEEE Learning Technology Standards Committee (2005), *persons*referenced in technology-supported learning are examples of learning *objects*. What cannot be reduced into resource (*Bestand*), that is, objectified and systematized, becomes seen as useless and redundant—as both Heidegger and Foucault showed, the human being is no exception (Rayner, 2001). In *The Real World of Technology*, Ursula Franklin (1999), a prominent scientist, differentiates between a growth model and a production model. Within a growth model, one should discover the best conditions for growth and then try to meet them. A production model is different in kind: things are made, not grown. The conditions are controllable in a production model. Production is predictable, while growth is not. Franklin contends that educational institutions operate according to a *production* model. A metaphysical implication of a production model for education is that choosing a particular educational institution will turn the student into a specifiable and identifiable product.

Following Heidegger, Dall'Alba and Barnacle (2007) argued that ontology (a branch of metaphysics) has tended to be subordinated to epistemological concerns in higher education. Accordingly, the transfer and acquisition of (disembodied) knowledge has been privileged, in line with traditional Western epistemology. A narrow focus on skills and knowledge "undermines" skilfulness (p. 686). As an alternative, Dall'Alba and Barnacle offer foregrounding ontology for teaching and learning by promoting the integration of knowing, acting, and being. Dall'Alba (2005) described a project of integrating knowing, acting and being which she used in a class designed for experienced university teachers. Participants in the class designed, implemented, and evaluated an educational intervention to enhance some aspects of their educational practice. Accordingly, participants were challenged to transform their ways of being university teachers through transforming their

knowing and acting. Another example, for medical students, is that the focus of medical education would be developing appropriate ways of being practitioners, in contrast to simply acquiring and applying knowledge of relevance to medicine (Dall'Alba & Barnacle). From an ontological point of view, knowing is not simply something we posses, but it is who we are (Dall'Alba). In other words, knowing is not exclusively cognitive and as such transmitted, but is enacted and embodied—to which now we turn next.

Phenomenology

Perhaps, "the most culturally deeply embedded dualism with which educational theory and practice must come to terms is the mind/body separation" (Peters, 2002, p. 404). The research on the body in online learning ranges from seeking ways to compensate for the online invisibility of a sensing body to celebrating the (no)body in virtual space where learning is not marked and shaped by class, gender, race, (dis)ability, accents, size, beauty, and age (Lander, 2005). Sociologists have long been dealing with the relationship between reproduction, education, and the forms of cultural capital, that can take the embodied state (e.g., "in the form of long-lasting dispositions of the mind and body"; Bourdieu, 1986, p. 243).

Along with some philosophers and phenomenologists (Dreyfus, 2001), feminist researchers, postmodernists and critical educators have emphasized the importance of the embodiment in learning (McWilliam & Taylor, 1996; Shapiro, 1994) and in online learning (Bayne, 2004). Some instructional technologists also argued for the importance of physical place and presence in how we construct meanings in our lives and how we form ourselves (Streibel, 1998). These theorists departed from the mind/body dualism and insisted that the pedagogical relation is embodied. This new body of work stands against the ideal of disembodied knowledge and presents the notion of situated knowledge as it is inscribed in and on the body as a lived process (Shapiro). These discussions are particularly important within the context of online learning in which body seems to be irrelevant.

In *On the Internet*, drawing on phenomenological and philosophical insights of Nietzsche, Kierkegaard, Heidegger, and Merleau-Ponty, Dreyfus (2001) argued that when we leave behind our animal-shaped, situated, vulnerable, embodied selves in cyberspace, we also lose relevance, skill, and meaning. According to Dreyfus's phenomenological analysis, bodily presence is required for acquiring advanced skills to be experts and cannot be "delivered" online. He claims that bodily presence / apprenticeship is necessary for even the postdoctoral students in a highly theoretical science; students learn what to do through observing the body of the professor when there are no rules for situations, such as how long to persist when the work does not seem to be going well or what to do in case of a crisis.

For Dreyfus (2001), even if the Internet provides live video conferencing or interaction, such a technology cannot capture the context; context is the mood in the room and mood governs how people make sense of what they are experiencing. Thus, only bodily presence can allow us to be attuned to the mood or immersed in the context; unless students are

immersed in the context, they will be less willing to take risks, to ask questions, or interact with the class. Here, Dreyfus may seem to be going too fast; Blake (2002) pointed out that perhaps there is nothing intrinsic to distance education in general or online education in particular that precludes risk or commitment. However, the general point that Dreyfus is making seems to be correct: as we go from tutorial teaching to large lecture halls to asynchronous net-based courses, we tend to witness a decline in involvement and instructional effectiveness.

Some certainly would argue that this claim of Dreyfus lacks evidence especially when we think of the "no significant difference" phenomenon (Russell, 2007). However, this so-called phenomenon needs to be questioned. A decade ago, Farber (1998) argued that in order to evaluate this phenomenon and move ahead with the transfer of university education from the classroom to the screen, "we need to consider them not in relation to some idealized rendition of what postsecondary education ought to be, but in relation to what actually takes place in colleges and universities" (p. 799). Farber tries to find an answer to this crucial question:

> Beyond knowledge of subject matter, and beyond the quantitative and verbal skills and the higher level cognitive skills that are typically tested and measured in college, beyond even the less measurable kinds of competence that instructors often aim at, in what areas and to what degree do students tend to be affected by their postsecondary experience? (p. 799)

Using some substantial studies of the effects of postsecondary education, Farber (1998) argues that measurable competence (in skills, knowledge, etc.) is not "in itself an adequate indicator of educational effectiveness" (p. 797). The college effects that are beyond measurable competence include psychosocial changes, development in attitudes, interests, and values, flexibility of thought, and moral reasoning. Involvement with both faculty and a student's peers, for instance, is often found to be very important in what is called education. Returning to studies that show the "no significant difference" phenomenon in distance learning and face-to-face learning, Farber argues, they deal with only "straightforward academic performance" (p. 805).

Now, returning to Dreyfus's phenomenological arguments, accepting these should not blind us from looking for new possibilities in the online space. In her studies of experiences on the Internet, Sherry Turkle (1995) found that technology changes us as people and the way we think and feel; we can move through multiple identities and the boundaries between the real and the virtual, specifically human and specifically technological are being eroded. Moreover, online technologies allow new ways of teaching and teaching online requires new skills and qualities. To illustrate, more than presenting, moderating skills such as archiving, summarizing, and weaving are especially required from online teachers (Salmon, 2000). Considering Dreyfus's arguments and the new possibilities of online learning together, a blended approach with on-line and face-to-face components seems to be most promising, rather than replacing face-to-face with online learning. In the article, "The Embodiment of the Online Learner," Bayne (2004) argued both that the mind/body distinction is untenable as well as that the conventional constraints and significations of embodiment can be challenged and shifted in the new technological

environments.

In relation to the purpose of this paper, once one realizes or accepts that the body matters in learning (however body itself is open to re-articulation), it becomes untenable to speak of "delivery" of learning as if we could digitally package learning and provide it to the mind of learners. Our point is not to present another case in endless discussion about online versus face-to-face learning; rather, we point out that when the role of the embodied teacher or the significance of the body-to-body relation is not recognized, then the body and, indeed, the profession of teaching seems to be unimportant and "delivery" of learning (objects) becomes the only issue. The failure to recognize the embodiment of learning gives the impression that everything about learning could be objectified—namely, learning can be seen only as a matter of management of learning objects by instructional designers.

Political Economy

In *The Postmodern Condition*, Lyotard (1984) has notably argued that, "the status of knowledge is altered as societies enter what is known as the postindustrial age and cultures enter what is known as the postmodern age" (p. 3). Lyotard noted that "the miniaturisation and commercialisation of machines is already changing the way in which learning is acquired, classified, made available, and exploited" (p. 4). Knowledge in computerized societies is becoming exteriorized from knowers. The notion that knowledge and pedagogy are inextricably linked has been replaced by a view of knowledge as a commodity:

Knowledge is and will be produced in order to be sold, it is and will be consumed in order to be valorized in a new production: in both cases, the goal is exchange. Knowledge ceases to be an end in itself, it loses its "use-value". (Lyotard, 1984, pp. 4-5)

Thus, education is reduced into a commodity: something to be produced, packaged, sold, traded, outsourced, franchised, and consumed (Roberts, 1998). In this reduction, the objectification of education plays an important role in the sense that, as Lyotard argued, the application of technology to knowledge necessitates that knowledge be computerized or formatted into specific modes. The lived experiences of teachers, for example, are to be discarded by this formatting. This is surely frightening but, unfortunately, there is evidence that suggests that this may become the dominant case. Shannon's (1989) history of reading instruction in the U.S. in the 20 th century presents an alarming case; the roles of teacher and textbook seem to be reversed in many classrooms wherein teachers become a support system for the textbook (and other instructional materials) rather than the other way round: "teachers have become *legally* dependent on *commercial* reading materials" (p. 85, italics added)

For analytical purposes, one can identify three related political/economical problems with the objectification of education: deskilling, reification, and proletarianization.

Deskilling

Deskilling is the separation of conception from execution (Apple, 1986, 1995). Deskilling is part of a process in which labour is divided to increase productivity and control labour. Recall that, since the 1950s and 1960s in the U.S., the view that teachers were unsophisticated in skills and major curricular areas forced the creation of "teacher-proof" materials. The separation of conception (i.e., goal setting, ID, and assessment procedures) from execution enables management to rationalize and control what is happening in the classroom; instructional outcomes cannot be predicted if teachers and students are allowed to work toward goals using a variety of methods and materials (Shannon, 1993).

As we pointed out, in many American classrooms, the pre-packaged curricular materials ("systems," as they are sometimes called) include everything that a teacher needs, such as curricular content, pre-specified teacher actions/plans and student responses, assessments items, and so forth. Accordingly, teaching skills such as designing teaching and curriculum planning for specific students atrophy because they are really not required (Apple, 1986, 1995). The teaching becomes a matter of something one purchases; the school is transformed into a market. In other words, the teacher's professional skills are replaced by techniques for better controlling students; large publishing houses and, to a certain extent, governments become more powerful than ever (Apple, 1995; Shannon, 1989, 1993).

Moreover, teachers' work is increasingly intensified. More and more needs to be done in less time; thus, the teachers have little choice but to buy ready-made commercial materials (Apple, 1986). Deskilling is accompanied by reskilling. For instance, teachers need the management skills to raise test scores using pre-packaged instructional materials. This managerial role reduces both the quantity and quality of skills required to perform the teachers' duties during reading lessons and, thus, decreases the impact of teachers' work on students learning to read (Shannon, 1989). Moreover, the new systems require more technological know-how skills.

A new kindergarten teacher from New York described her work in terms of this deskilling:

> [T]he superintendent of my district took the reading curriculum that we use, and she devised her own lesson plans on the ways we should teach, what we should say, how we should have our charts printed, how they should be hanging in the room, and what the children should know if she should come and question them. The superintendent said we must do it the way she scripted it in two folders that she gave us. They go right down to what we should say to introduce the follow up, what the follow up should be, and what the children should be assessed on once it's the end of the week. (cited in Kesson, 2004, para. 42)

With their role reduced to manager, teachers see little incentive to improve their pedagogical skills; thus, instruction becomes "a managerial concern, not an educative one both for teachers, and, ultimately, for students" (Shannon, 1989, p. 92).

We do not mean to suggest that teachers are passive recipients of pre-packaged curriculum. Some research shows that teachers adapt standard curriculum materials to their interests and skills as well as what they believe to be their students' needs, rarely following scripted curriculum as it is written (for a review of research, see Kauffman, 2005). Historically, teachers have retained "a fair degree of autonomy once the classroom

door was closed" and complied symbolically or not at all with the mandates for change pressed on them by the outside reformers (Tyack & Cuban, 1995, p. 9). Yet, in more recent studies, while some teachers found sufficient freedom within the curriculum and reported almost complete control over pedagogy in classroom (Archbald & Porter, 1994), some teachers felt that their only option was to leave the profession as a reaction to curriculum prescriptions and constraints (including standards, testing, and mandated curriculum) (Kauffman, 2005).

Reification

Reification signifies the process by which human relations, actions and characteristics take on the characteristics of things, which then become independent and come to govern human life. As Kesson (2004) pointed out, when the curriculum comes from outside of the classroom, in the form of scripts, essential characteristics of the relationship between the teacher and the students are endangered; the curriculum is not really connected to student needs or to what the teacher thinks appropriate. As such, reading instruction, for instance, is reified as the application of commercially produced materials (Shannon, 1989); students are not expected to critically interpret what is read or produce their own stories. Thus, using pre-packaged materials teachers are alienated from their work; teachers withhold their subjectivity from their work and rely on ready materials to solve their problems. Kesson criticized reification in urban schools in U.S.:

> Under conditions of reification, the curriculum becomes a thing, it behaves according to the logic of the *thing-world, and most important, it transforms both teacher and student into beings who behave in accordance with the logic of the thing-world.* And what about rich, deeply meaningful dialogues and connection-making that must be cut short in the interest of the timed script? How many teachers, when they do present new and worthy knowledge, are asked 'will this be on the test?' What about N.'s kindergartners, who already judge the worth of their classmates by their Friday test scores? (para. 66)

Scripted instruction not only reifies learning but also kills one of the most basic teaching and human experiences, that is, openness. Dialogue with each other in reaching for understanding about the world and ourselves is the distinctive characteristic of being human (Gadamer, 1981). Moreover, it is impossible for one to know the result of genuine dialogue and what emerges in a dialogue "is neither mine nor yours and hence so far transcends the subjective opinions of the partners to the dialogue that even the person leading the conversation is always ignorant" (Gadamer, 1975, p. 331). In other words, when we enter into dialogue with others or students, we transform ourselves and "we do not remain what we were" (Gadamer, p. 341). In short, when we follow a script in our dialogues with our students, we block any possibility for transformation and openness because, in the final analysis, teachers are not expected to deviate from the scripts; hence, there is no opportunity for students and teachers to think differently than what is expected.

Proletarianization

Proletarianization is the process in which the character of middle class labour becomes similar to working class labour. If class is defined by one's relation to the processes of production, then teachers occupy a somewhat ambiguous class position; while their level

of schooling signifies professional status, they are supervised by managers, which suggests that their labour belongs more in the working class category (Kesson 2004). Teachers are not only classed actors, they are gendered actors as well; like every occupational category, women teachers are more apt to be proletarianized than men teachers (Apple, 1986). Historically, women's labour has been subject to deskilling/external control in "very powerful ways" (Apple, p. 158); recall that, like most of the countries in the world, 71 % of all teachers and 79 % of elementary and middle school teachers in the U.S. are women (U.S. Census Bureau, 2004).

Although technological proletarianization may not be deeply felt in K-12, it is certainly highly visible in higher education. Note that ID has not really found much application in public schools; higher education has recently become particularly interested in ID as they move courses from face-to-face to online learning environments (Carr-Chellman, 2007). The distribution of digitized course material online, without the participation of professors who develop such material, is a strong trend in North American universities, often with commercial interests in mind (Noble, 1998a). Foley (2003) noted that

> Internet based distance learning offers a new revenue stream to the university, its reusability facilitates standardization, and the development of offerings can de-professionalize the professoriate. Often courses are "developed" by tenure track faculty only to be delivered routinely by adjunct instructors or part time instructors in a gradual process of standardization and deskilling. When the content of the curriculum is constructed independently of the instructor, its content and perspective are easier to control and more reliably delivered to students. At the same time, a standardized curriculum makes fewer demands intellectually on the professor. Hence, the university may employ less qualified, and subsequently, less expensive faculty. (p. 32)

Definitely, what has been described by Foley has already been happening. To illustrate, let us point out the case of The University of Phoenix. The university's official web site claims that

> University of Phoenix is truly a different kind of university, whose time has come. Just ask its 17,000 faculty, and staff who are passionately dedicated to teaching and serving the University's 200,000 adult students enrolled on campuses and online throughout North America. (The University of Phoenix, 2007, para. 3)

Indeed, this university is different, as An Invisible Adjunct Assistant Professor of History (2003) noted: "Behold [T]he University of Phoenix, an egalitarian university where all faculty are treated equally, which is to say, all faculty are treated equally badly" (para. 5). In other words, almost all faculty members are part-time or non-tenure adjuncts in the largest for-profit university in U.S.. This situation is not unique to the University of Phoenix. In a comparative review of trends in the professoriate in the United States, Altbach (1998) noted that while there are relatively few high-paying jobs at the top, a large number of low-paying jobs are at the bottom:

> The American university is becoming a kind of caste system, with the tenured Brahmins at the top, and the lower castes occupying subservient positions. The part-timers are equivalent to the Untouchables in the Indian caste system—relegated to do the work that others do not wish to do and denied the possibility of joining the privileged. (p. 106)

This is truly a frightening manifestation of proletarianization. As Noble (1998b) noted: "It is no accident that the high-tech transformation of higher education is being initiated and

implemented from the top down with no student and faculty involvement in the decision-making or despite it" (p. 30).

Instructional Technology Implications

In this section, we discuss the IT implications of our previous arguments. The following italicized points aim to summarize our argument; the succeeding discussions develop those points further.

1. Teaching should not only be seen as the production and transmission of instructional materials. The importance of dialogue should be acknowledged.

Heidegger warned against a false interpretation of education as the transmission of information; students are not empty containers waiting to be filled (Thomson, 2001). Many have criticized this false understanding (Dewey, 1963; Freire, 2000); however, the importance of Heidegger's analysis lies in the false understanding of education as related to and reflecting the nihilistic logic of *enframing* by which intelligibility is "leveled out into the uniform storage of information" (Thomson, p. 254). Thus, the problem is metaphysical in that the intelligibility (being) of education is equated with the information packages and then education is equated with the *delivery* of those packages. Due to this false understanding the teacher's role is understood as the presenter of information. If the role of the teacher was just limited with the presentation of information, we would replace them with computers that are more reliable and efficient! This deceptive argument is all too common, for instance, in *Instructional Technology: A Systematic Approach to Education,*Knirk and Gustafson (1986) argued that "teaching is primarily an information-handling profession (transfer of knowledge from 'data sources' to receivers with a need for the information)" (p. 7). This false understanding lead to the many media studies in IT that aim to show whether media mediated (computer-assisted instruction, distance education, and so forth) is better than face-to-face instruction. As we have pointed out before the majority of studies show "no significant difference;" and some have accepted the position that "the delivery system" does not have any influence on achievement (Simonson, Smaldino, Albright, & Zvacek, 2003). What is absurd in the premise of such studies and their conclusions is that education is totally reduced into the delivery of information, and as such it is hard to find a difference between different media (see also, Farber, 1998).

Levinas's distinction between the Said (*le Dit*), the content of speech (i.e. learning object), and the Saying (*le Dire*), unspoken/unwritten dimension of the said, is important here in the sense that in schools attention is paid only to the universality of the Said (Edgoose, 1997). The uncaring teacher can avoid responsibility for individual students once one pays attention only to the Said: "The quest for teacher-proof curricula only shows how the 'safest' educational paths dream of obliterating the Saying with the Said" (para. 8). For Levinas,

> That someone is Saying something matters to us long before we can tell what is being Said … The Saying exposes our non-separation from the Other. Since I cannot separate myself from Others, I cannot discard them as I can, say, throw away some *thing*. Therefore, *I cannot limit my responsibility for the Other with whom I am face-to-face*. My responsibility for them clings to me beyond my control. I *am* my brother's keeper. (Edgoose, 1997, para. 14, italics in

original)

Cook's and Young's (2004) study with preservice teachers showed that, in consequence of their face-to-face encounters with children, teachers were likely to establish and change their beliefs about children and how to teach. In a bodiless or faceless educational milieu that is dominated by objects, teachers may not feel obligated to students and may preserve their beliefs about teaching and students, no matter whether they are appropriate or not. In other words, face-to-face relationships with students seem to create a possibility of change in teacher's beliefs and prejudices, and thus a possibility of dialogue between the teacher and students. The role of the teacher is different in this scenario than "the teacher as technologist, efficient deliverer of curriculum" (Standish, 2001, p. 75).

From a metaphysical point of view, perhaps the most important problem of education in the last several decades (and, in general, in modern times) is that the science of education has been largely understood as a science of productive making (Böhm, 1994; Richards, 1982). As such teaching is largely reduced to production and delivery of learning or of learning objects. Since the notion of learning as something to be *delivered* is tantamount to "the banking conception of education," instructional technologists should come to terms with the importance of dialogue in learning (i.e., Burbules, 1993; Freire, 2000). Dialogue is a form of*praxis*, action or doing, not producing and delivering. Rather than managing pre-packaged instruction, instructional designers should continue to look for ways in which they can facilitate the teachers and students having authentic dialogues about instructional contents. An alternative to the way information transfer threatens dialogic and democratic learning has been suggested by Hyslop-Margison (2004). Hyslop-Margison argues that combining Dewey's model of constructivism, with its fundamental respect for learner agency, and various Internet-based learning strategies offers an effective means to open new democratic spaces within virtual classrooms.

2. IT as an art has the potential to disclose things as things, not as standing reserve to be (re)used. Bodies and subjectivities should be affirmed, not seen as an obstacle to learning.

Heidegger (1977) pointed out that *techne*, original Greek word for technology, also includes the conception of art and handicraft. As bringing forth and revealing, *techne* can help us engage with things differently, that is, rather than treating them as standing reserve. Art helps us to see things in their uniqueness and individuality. In contrast to the universality of technology, in which everything is exchangeable, art works are particular and local (Standish, 1997).

Along with creating standardized and exchangeable learning objects to be re-used by teachers, instructional designers should continue to ponder ways in which the uniqueness of learning experiences of students and abilities of teachers can reveal themselves. In other words, instead of an anonymous/replicable/replaceable manager of instruction, the value of the distinctive character of each teacher should be affirmed (see also Standish, 1997). In preference to valuing only exchangeability / standardization of teacher, student and instructional resources, we should value uniqueness of the teachers and students

including their subjectivities, faces, bodies, and so forth. Thus, IT needs to ally itself with the art and humanities (Hlynka & Belland, 1991; Rose, 2005; Wilson, 2005) in order to appreciate particularity as opposed to exchangeability.

A good example of employing instructional technology as an art is to use technology to reveal the uniqueness of learning experiences of students. Wang (2006) described a project in which students and the instructor in a college of education collaboratively investigated critical issues in their communities, shared personal stories, and used a multimedia authoring tool to present their findings and create educational materials on these issues. This project shows that technology could be used to support development of the essential aspects of student empowerment pedagogy (autonomy, equality, and skill building). Skill-building or "skilling", to which we turn next, is especially meaningful when students are prospective professional teachers.

3. Our job as educators (and instructional designers) involves skilling, not deskilling (Apple, 1986, p. 173).

We have argued that teaching should not be seen as delivery of pre-packaged materials, but as a lively dialogue between the teachers and students. In order for such a dialogue to take place, professional development of teachers should be supported. To use Shannon's (1989) description of American reading programs, technologized instructional programs have professionalism without the conventional professionalism of teachers. The teacher implements somebody else's conception. As such, teaching does not involve a sense of ownership on the part of teachers. In *Horace's Compromise*, Sizer (1984) noted:

> Teaching often lacks a sense of ownership, a sense among the teachers working together that the school is theirs, and that its future and their reputation are indistinguishable. Hired hands own nothing, are told what to do, and have little stake in their enterprises. Teachers are often treated like hired hands. Not surprisingly, they often act like hired hands. (p. 184)

In their historical study on school reform, Tyack and Cuban (1995) suggest that educational change cannot be accomplished without "enlisting the support and skills of teachers as key actors in reform" (p. 10). We also believe that instructional designers' meaningful technological interventions need to be aligned with approaches to professional development of teachers (cf., Fullan & Hargreaves, 1996). To illustrate, a strategy to improve instruction would be that teachers should be well schooled in ID in order to modify and invent instructional strategies (Winn, 1990). Of course, some teachers are not very skilled; but, this only means that they should be skilled because making instruction "teacher-proof" has also made it "student-proof": students are also decontextualized along with instruction (Winn, 1989). Standards-driven, pre-packaged, commercial materials and a high-stakes testing climate can undermine "teacher morale and inhibit their development of professional expertise and wisdom" and increase "children's disengagement with school-based tasks and results in less overall learning for them" (Fang, Fu, & Lamme, 2004).

There are some promising alternatives to this unfortunate situation. To illustrate, Fang, Fu, and Lamme (2004) developed a model of professional development that fosters a high

degree of teacher autonomy and accountability for student learning. The model includes (a) an annual summer institute, (b) regular classroom visitations by the university faculty and fellow teachers, (c) monthly meetings throughout the school year, and (d) the end-of-year showcase meeting. The intention was to help teachers grow as professionals who design and implement research-based, effective literary instruction that produces a positive impact on student learning. This model helped participating teachers learn to trust their own professional judgments instead of commercial manuals. While teachers became designers of individualized instructional plans, set goals, selected materials, and decided instructional strategies; students became more successful and significantly outperformed their peers in other classrooms within the same school.

4. Instructional products should be designed and imported as instructional resources which might enhance a caring relationship.

Our discussion above has identified the need to value the uniqueness of each of the teachers and students. Highly complementary to this view is the importance of unique relationships between the teachers and students. The teacher's bodily presence in the learning context is often represented almost as an "impediment" to learning (McWilliam & Taylor, 1996). Such an understanding misses how bodily presence contributes to (care) relationships between the teachers and students. Feminist educational technologist Damarin (1994) provides a framework in which educational technology can be benefited from the *care ethic* of Noddings. This ethics is based on the relation between the "one-caring" (carer) and the "cared-for." The one-caring is obliged to meet the needs of the cared-for and the cared-for is obliged to continue the relation by recognizing the one-caring. Noddings (2005) warns us that such caring is "not merely diagnostic, measuring the cared-for against some pre-established ideal. […] When I care, my motive energy begins to flow toward the needs and wants of the cared-for" (para. 5).

By pointing out this relationship, we do not by any means aim to reproduce a dominant power relation between teachers and students; rather, our point is that teachers, not external experts or designers, are in the best position to make decisions with and on behalf of their specific students. As the instructional technologists produce technological products and those products are imported into the classroom, they should not be designed to replace the teacher because in so doing they will likely destroy the caring relationship. As opposed to what formerly prescriptivist ID maintained (Reigeluth, 1983), instructional strategies and resources that instructional designers provide should *orient* future teachers and learners for situated activities, not prescribe how to teach or how to learn (Streibel, 1991). Instructional technologists should create resources in a way that teachers and learners select among various materials while still controlling instruction, and they are largely responsible for making educational decisions (Damarin, 1994; Nunan, 1983).

Conclusion

The logic of objectification of teaching is largely based on accounting and management in the sense that the objectification of teaching increases efficiency and bureaucratic control over the teaching process. When teaching is seen as a matter of communication between

senders and receivers, the teacher may indeed be seen as mere noise, that is, subjective and inefficient. We should return to what the late Readings (1996) called "accountability that is at odds with accounting" (p. 154). Rather than decisions based on efficiency (which learning approach or medium is best in terms of the transmission of information?), instructional designers and educators can rephrase teaching and learning as "sites of*obligation*, as loci of *ethical practices*" (p. 154). From this ethical perspective, instructional designers can ask key political questions such as "Who loses/gains by objectification and reification of, say, literacy?" This is especially important as millions of teachers (most of them women) are deskilled and proletarianized and tens of thousands of professors become adjuncts.

Instructional designers need to question the trend of packaging and delivering that have been taken from other industrial enterprises. Instructional designers should not treat students or their thinking as objects to be manipulated toward predetermined ends; otherwise, the teaching and learning relationship is reduced to one of coercion (Kesson, 2004). Buber has argued that when we are in a genuine dialogue with somebody, our intention is to establish a living mutual relation; predetermined goal and process-oriented talk is not a dialogue (Smith, 2000). Instructional designers need to create structures in which a caring relationship might be enhanced and a dialogue can take place.

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