Information Technology and School Libraries: A Social Justice Perspective

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Abstract

This research takes an emergent approach to data analysis (Charmaz, 2008) through the use of an emic/etic data coding process, and proposes a typology for understanding the connection between social justice principles and the provision of information technology services in school libraries. The study used data from seven school libraries in the state of New Jersey, obtained from focus groups consisting of forty-eight teachers, eighteen librarians, ten department supervisors, eleven principals/assistant principals, four district directors, and three librarian-teachers. The emergent process and typology employed in this research can aid school libraries in assessing how particular factors of the school/school library environment influence the provision of IT services to school library users. This study confirmed that school librarians and teachers rely on several social justice principles, such as distributive justice, utilitarianism, and egalitarianism, in making decisions regarding how to provide information technology services within the school environment. In particular, it was found that the type of social justice principle used in the school environment depended on the school librarians' and teachers' perceptions of the information competencies of their constituents and the availability of resources within the school environment. This research contributes to the study of social justice in the library and information science (LIS) professions in the following ways: first, by expanding ideas of "social justice" in LIS beyond traditional notions of "disenfranchised groups"—such as people having lower socioeconomic status, racial/ethnic or sexual minorities, and

individuals with physical or mental disabilities—to include any group that may experience injustice in the context of information, such as school teachers, librarians and students; second, by portraying how social justice principles are enacted as strategies in school librarianship and pedagogy that advance student information-seeking and learning objectives; third, by highlighting the value of social justice to both practice and scholarly research in school and school library environments; and fourth, by proposing a methodology for studying social justice in a library environment.

Introduction

Metatheories have been defined as the presuppositions of a field of knowledge (Vickery, 1997); and along these lines, they can be seen as designs for research fields that delineate what counts as data, analysis, findings, and other research components (Talja, Tuominen, & Savolainen, 2005). In this way, metatheories are important because they formalize and structure research fields around particular epistemological assumptions that ultimately shape the types of conclusions that can be drawn. Although various disciplines such as philosophy (Rawls, 1971; Dworkin, 1981; Miller, 1999), law (Hayek, 1978, 2013), social work (Dominelli, 2004; Vera & Speight, 2003), and public policy (Atkinson, 1983; Powers & Faden, 2006) have long grappled with and produced rigorous ideas about social justice, library and information science (LIS) researchers have rarely directly invoked such social justice ideas as informing metatheories or applied methodological tools in their studies (Mehra, Albright, & Rioux, 2006; Rioux, Mehra, & Albright, 2007; Rioux, 2010). LIS scholars have long grappled with issues surrounding the concept of social justice in the context of information, such as studies on information poverty among janitors (Chatman, 1996) and retired women (Chatman, 1992), the small worlds and normative behavior of feminist booksellers (Burnett, Besant, & Chatman, 2001), and the information grounds of immigrants (Fisher, Durrance, & Hinton, 2004). Despite such work, the invocation of social justice as a metatheory has not been "overtly expressed" in LIS, which can in turn hinder the accumulation of "unit theories" that may lead to more rigorous research programs integrating and applying social justice principles (Rioux, 2010, pp. 10–11).

This research draws its metatheoretical assumptions from a range of philosophical theories on social justice and takes the same perspective as Rioux's first assumption with regard to individual rights in an information context: "All human beings have an inherent worth and deserve information services that help address their information needs" (2010, p. 13). The research presented here assumes that information services that meet the requisite needs of individuals are desert-based rights of individuals, particularly in a school library context. Information technology (IT) is

assumed to be a major access point for teachers, school librarians, and students in meeting their information needs and therefore deserves serious attention in the educational context (Purcell, Heaps, Buchanan, & Friedrich, 2013; Mumtaz, 2000). For example, the New Media Consortium (NMC) and the EDUCAUSE Learning Initiative (ELI) recently released the 2014 New Horizons report on K–12 learning and considered IT use in school environments as integral to the learning process in terms of content delivery, learner support, and other similar digital strategies (NMC, 2014). Accordingly, the research presented here focuses on the underlying teacher/school librarian decisions and perceptions that lead to the provision of technology service by seven school libraries (K–12) in the state of New Jersey.

Furthermore, this article assumes that some basic level of technological ability is considered to be a necessary skill that is required for individuals to meet their information needs in a school environment and beyond, as promulgated by the Institute of Museum and Library Services (IMLS) (2009). On this point, the American Association of School Librarians (AASL) and the International Federation of Library Associations and Institutions (IFLA), both substantial and influential organizations in the school library domain, have stated that a key goal of libraries is providing equitable access to information and IT, while also providing opportunities for lifelong learning though meaningful engagement with IT for learning regardless of socioeconomic or racial status (AASL, 2007; IFLA, 2012). School libraries, then, are seen as important infrastructures that provide key learning opportunities through the provision and use of IT (see Dadlani & Todd, 2014). Similarly, the International Society for Technology in Education (ISTE) has also stated that in addition to simply providing information technology to students, educators ought to focus on providing access to technology, in terms of services and knowledge, that enables students to reach their full potential (ISTE, 2014). Thus school libraries should provide not only access to IT but also, through instruction, the relevant information literacies and knowledge necessary to use such technologies in realizing one's specific goals and objectives (Bruce, 2004; McClure, 1994). With these ideas in mind, this research seeks to understand the strategies used by exemplary school libraries in providing IT services to their constituents.

In order to discuss this work comprehensively within a context broader than that of LIS, a review of philosophical literature on social justice is presented below, followed by a discussion of relevant LIS research on social justice. Additionally, findings are presented from extant school library research as well as relevant scholarly work concerning different factors that influence IT access in library contexts. Lastly, the methods, nature, and findings of our research project involving seven school libraries in the state of New Jersey are also explicated.

Social Justice in Philosophy

The following philosophical ideas, though broken down into separate sub-sections, overlap one another. For example, one might consider forms of distributive justice to be consequentialist or egalitarian. Despite these similarities, each of these frames of reference provides different perspectives on how one might construct what social justice is, and it is thus fruitful to highlight what each of these areas reflects in this regard. In particular, this section presents those social justice theories that are relevant to IT service organizations. Given the increased attention of school librarians to information, media, and digital literacy instruction (Koltay, 2011; Moore, 2005; Bawden, 2001), we assume schools to be educational organizations in which school libraries are a potential site of IT instruction and services.

Consequentialism

While several distinct concepts have emerged from the moral philosophy literature that seek to understand what individuals and societies take to be socially just (see Graham, 2011), one of the most prominent of these theoretical areas is consequentialism. Consequentialism consists of a body of theories claiming that individual perceptions of a situation are considered just if the individual can achieve some end (consequence) which he/she values in some particular way (Sinnott-Armstrong, 2015). One popular example of consequentialist philosophy is the concept of utilitarianism. Championed by Jeremy Bentham and John Stuart Mill in the eighteenth and nineteenth centuries, utilitarianism defines the primary goal (criterion for determining value) of individuals, inherently seen as part of collectives, as the maximization of benefit ("happiness") to the whole. In other words, a person's actions are socially just if they serve "the greatest good for the greatest number" of individuals (Bentham, 1823; Bentham, 1879). Utilitarians see utility (or that which provides happiness) as the end by which individuals judge a situation; thus those situations that are seen to provide sufficient utility to the individual are considered socially just by that individual (Mill, 1951). Other consequentialist theories posit different ends as the actual valued goals that should or do guide actions considered by individuals to be socially just. For example, ethical egoism, another consequentialist philosophy, posits self-interest as the end upon which social justice ought to be predicated (Brink, 1992).

Consequentialist theories are particularly relevant to this study because such normative ethical theories focus primarily on the decision-making processes and consequent products of action or practice by individuals in context (Gewirth, 1960). IT service organizations provide IT services and/or use IT in achieving some sort of ends or products for their consumers. For example, in the case of educational organizations such as high schools, school libraries can be seen as sites where IT services are provided in support of students achieving particular learning outcomes (Todd, Gordon, & Lu, 2010). Thus a key consideration for teachers and school librar-

ians could be what approach to adopt in deciding what is valued *by the range of those to whom they provide services.* Accordingly, if a school library is to reflect broader social justice values or even its own particular set, we believe that it must take into account how social justice is conceived of by its constituents as well as by the organization or system of which it is a part, then provide services that meet those goals, and finally (and importantly), evaluate how well their strategies achieve desired outcomes.

Distributive Justice

Though related to consequentialism, distributive justice principles are more concerned with how benefits and burdens are distributed in society rather than with looking solely at the aggregate of "justice" or good (Cohen, 1997). Distributive justice is broadly defined as the just allocation or distribution of assets and liabilities (or strengths and weaknesses or benefits and burdens) among a society or group of individuals (Miller, 1999). An analogy for thinking about distributive justice is to think of how resources in a society could be dispersed to create the most just allocation. We believe, for a number of reasons, that distributive justice principles are particularly important to understanding how different IT service organizations impart IT services to their varied consumers. To begin with, when organizations provide services to external "customers," such services are generally subject to customer service fairness judgments, or customer perceptions of the degree of justice, such as equity of services, in a service firm's behavior (Seiders & Berry, 1998). From an IT service perspective, this means that an organization providing IT services needs to do so in a way that does not violate its particular idea of social justice, which may include a myriad of concepts, as well as the related expectations of its customers. Thus, inferring from Seiders & Berry (1998), a public library providing computing services to its users needs to do so in a way that satisfies both internal and external expectations of social justice. Intuitively, the difficulty in achieving this goal lies in determining what those expectations are.

In the case of information organizations providing IT services, borrowing and inferring from the organizational justice literature (Folger & Cropanzano, 2001), it seems important to implement IT practices and services that have such qualities as being appropriately distributed to constituents who need those services in achieving their particular goals, through a procedure that is deemed fair by those constituents (pp. 29–31). But determining such a distribution is itself value-laden (Williamson & Fadil, 2009). In the case of public libraries, for example, should all computers be lent on a first-come, first-served basis, or should some be reserved for certain purposes, such as job-seeking for the unemployed? On the one hand, a first-come, first-served basis views all patrons as having equal rights to use such service (what we later discuss as a form of strict egalitarianism); on the other hand, reserving some computers for job-seekers sees job-seekers

as needing these services more than the average user does, and that society ought to provide those who need such a service more of it than it does for others (here we organize around another principle to be discussed, that of equality of access to advantage).

Additionally, distributive justice principles are particularly relevant to IT in educational environments because a core activity of such environments involves distributing resources. In other words, the research conducted here shows that school libraries, as sites of IT service provision within schools, are meant to serve the many, and in doing so they provide a variety of IT resources/services to the many. However, in accomplishing this goal, schools often have limited resources (i.e., budgets, state or federal standards that tie down decisions, etc.) for meeting the needs of the many they serve. Therefore, one of the main constraining factors in schools is the ability to provide "sufficient" resources to those served (Todd, Gordon, & Lu, 2010). With limited resources, pedagogical and school practices to some degree rely on a system of distributing resources so that the needs of their constituents can be met. As the particular resource being discussed here is technology service, principles of distributive justice can be used as a lens through which to examine and to better understand the provision of technology service in schools. For example, in Todd, Gordon, & Lu (2010) participants were asked to identify challenges as they continued their work as school librarians. One of the key challenges centered around the limitations of existing IT in providing access to digital resources and library-centered instruction, along with how the limitations of existing budgets impacted upon the acquisition of sufficient current resources to meet curriculum demands.

Having made these claims, the authors emphasize that it is important to understand that distributive justice is a systematic way of determining just allocations of resources, but that the underlying reasoning for what makes an allocation just can vary depending on the context examined (Deutsch, 1975; Roemer, 1998). Thus different types of IT service organizations may espouse different principles as their core reasoning for such resource allocations; in the educational environment, egalitarian principles are commonly invoked (Hachfield, Hahn, Schroeder, Anders, & Kunter, 2015; McGregor, 2011; Purao, 2014). The next section of this study describes the myriad ways in which the idea of "equality" might be interpreted in an organizational context. Rather than reverting to the encompassing term "equality," our research will demonstrate that equality can be a function of the different sorts of resources or services that may be valued by various individuals within an organization.

Egalitarianism
While egalitarianism can be considered a form of distributive justice or even be integrated into a consequentialist view of social justice (Roemer,

1998), this concept has several distinct forms that center on equality as a function of justice. The most basic form of egalitarianism is referred to as strict egalitarianism, the belief that in any given situation, all people should have an equal amount of resources (goods, services, etc.) available to them (Raz, 1978; Nielsen, 1979). Dworkin (1981) devised a more sophisticated view of egalitarianism that is often referred to as "equality of resources" (ER). This variation of egalitarianism posits that individuals be given an equal amount of choice in what they would acquire, so rather than allotting certain objects or resources to everyone, individuals are allotted equal amounts of choice in terms of what they desire (Dworkin, 1981). In terms of a school library, for example, a strict egalitarian view might lead to each student in a class getting an equal amount of time for using a computer, searching reference stacks, and working with a school librarian. An equality of resource view, on the other hand, might allow all students a specific block of time (for example, 45 minutes), but give each student the choice of how to split up that time among the various library resources.

In more recent times, notions of egalitarianism center on more specific, contextual aspects of individuals. Cohen (1989) proposed the concept of equality of access to advantage (EA), which posits that individuals should be protected against any kind of involuntary disadvantage that might befall them. Another relevant variation of egalitarianism proposed by Sen (1992) is equality of capabilities (EC), which basically states that any distribution of resources or services should occur with the central idea that those receiving them are made capable of achieving their corresponding "functionings." Functionings refer to the ability of individuals to perform necessary and vital actions to live a normal life; these are the skills and conditions necessary for one to sustain in the given environment (Sen, 1992).

As an example of these approaches, an educational organization with a school library might take an EA approach if it decided to focus more of its time, effort, and funding on literacy courses and lifelong learning and career skills rather than expending the same resources on acquiring more literature for its own collection. The same library might take an EC approach if it polled its users and determined what specific courses it could offer to support lifelong learning opportunities. Importantly, EC is particularly different from the other approaches in that it focuses on the means by which individuals act, rather than on the ends that may be achieved.

These three egalitarian perspectives, ER, EA, and EC, have particularly important implications for the study of IT service organizations such as school libraries. As was mentioned earlier, many such organizations, and especially school libraries, espouse common principles of equality as evidenced by the institutionalized understandings of what they ought to accomplish, such as major association or organizational mission statements and manifestos (Pearce & David, 1987; Aabø, 2005); LIS associations such

as AASL, IFLA, and ALA prove this point. However, rather than understanding "equality" as a singular and easily defined concept, we should view equality as a multilevel concept that can have different influences on practice depending on the type of equality that is invoked (ER, EA, or EC, for example). Achieving an understanding of these variations can reveal how certain designs for social justice in practice can be harnessed to influence outcomes in IT service organizations. Accordingly, this study attempts to understand how the actions taken by teachers and school librarians in providing IT services map to particular social justice principles in practice within a school environment. It also attempts to understand how teachers and school librarians toggle between different social justice principles, theories, and perspectives in providing IT services.

LIS LITERATURE ON SOCIAL JUSTICE

In the LIS literature, much research has been done around topics concerning social justice (for example: Chatman, 1987, 1992, 1996, 1999; Fisher et al., 2004; Futterman, 2008; Forsyth, 2005), but little of this research has directly invoked social justice principles specifically from a metatheoretical standpoint (Rioux, 2010, p. 10). More directly, Mehra, Merkel, & Bishop (2004) examine how African American women incorporated technology (the Internet) into their daily lives. This study emphasized how a more equitable use of Internet resources could help to empower marginalized communities. Mehra & Srinivasan (2007) discuss extending the role of the library into communities via a library/community convergence framework in order to spur social change for disenfranchised groups (in this case, local immigrants and sexual minorities). The research in this case was geared toward creating social equity for marginalized communities by using libraries as the instruments of such change. Programs that spur such change are referred to as "social justice projects" (p. 29).

Britz (2004) discusses the idea of information poverty as a matter of social justice that requires serious consideration if a fair information society is to be reached, analyzing this concept through its various justice components (i.e., justice as enablement, reciprocity, participation, distribution, and contribution) and proposing a moral framework based on these components (p. 203). Lorr & Britz (2007) and others (Britz, Lorr, Coetzee, & Bester, 2006; Boekhorst & Britz, 2004) put forth a theoretical framework for understanding how access to information can constrain the forming of information or knowledge societies. They advocate for freedom of information as a prerequisite to the possibility of participation in a knowledge society, implying that such freedom is necessary to preserve social justice. Jaeger & Thompson (2005) discuss the effects of information access on the political process. Here it is perceived that lack of such access hinders the democratic process due to resultant information poverty and the effects of normative behavior. Thus the social justice agenda is related to

the democratic process, and access to information is seen as a prerequisite to creating a just democratic society. Jaeger & Burnett (2005) and Jaeger (2006) offer similar lines of research philosophy in describing the role of librarians as maintainers of information access for the public, as well as the importance of telecommunications policy that addresses the information access of people with disabilities. Finally, Mehra et al. (2006) put forth a social justice framework for research in the information professions using a meta-analysis of three separate studies. In conjunction with Rioux et al. (2007) and Rioux (2010), these three works constitute the most robust and direct attempt to propose a generalized framework for conducting research regarding social justice within the realm of information science.

The LIS articles reviewed here have been published within the last 13 years, suggesting that the *direct* treatment of social justice in LIS is quite young at this point. Second, the majority of the research in LIS on social justice centers on less-formally organized groups of people rather than on specific, formalized organizations. The particular scope of the populations thus far discussed has been, with a few exceptions (e.g., Mehra et al., 2004; Mehra & Srinivasan, 2007), more broadly focused on societies at large. Third, all of the work in LIS on social justice fruitfully tends to look at disenfranchised groups, such as people having lower socioeconomic status, racial/ethnic or sexual minorities, or individuals with physical or mental disabilities, but does not focus on social injustice in other more general groups. Though the latter may not be disenfranchised in a stratified sense across society, they may still experience injustice in their specific contexts, such as a stock trader being treated "unfairly" on a trading floor or work-tasks being distributed disproportionately among individuals at a NASA physics lab. Thus groups studied from a social justice perspective may well be the targets of social injustice at various levels of society, ranging from the more microlevel informal groups or organizations to the more traditional macrolevel view of society at large. This article seeks to fill some of these gaps by focusing on schools and school libraries as they affect students and teachers as the main population. Although, unlike the focuses of other studies on social justice within LIS, students and teachers are not normally considered a disenfranchised group, this article applies a social justice understanding to these populations.

School Libraries and Social Justice

There is only a small body of literature examining school libraries from a social justice standpoint. Moreover, there is neither literature that explores social justice as a philosophical construct nor as a focus of research on school libraries. Farmer (1991) provide a descriptive step-by-step process for conducting a social justice workshop involving collaborations with classroom teachers and school librarians. Levitov (2013) provides some instructional examples of how school librarians and classroom teachers

can embed the teaching of social justice through poetry and how they can promote social justice as they work with teachers and students. Similarly, Abilock (2006) discusses six potential approaches to teaching and civic education, equity, and social justice. These approaches relate to direct classroom instruction in government, history, law, and democracy; discussion of current issues; service learning though community engagement with diverse groups; extracurricular activities that promote social justice causes; student voice about social justice issues through, for example, school blogs; and simulations of civic structures and processes. In a similar approach, Barack (2009) describes how children are gaining a new perspective on social justice through virtual education programs, an online game, and books that promote social justice and a better world. The absence of any substantive scholarly literature that examines school library resourcing, IT infrastructure, and questions of access to resources and instruction through the lens of social justice is noteworthy. Given the attention being placed on social justice within the LIS arena, this article begins to address this significant gap.

Factors Affecting IT Access in School Libraries

In order to better understand how social justice principles play a part in the provision of IT services in school libraries, it is important to understand the general factors that influence access to IT in libraries. On the one hand, some factors focus on the actual IT available through the library organization and pertain to decision making related to the technological infrastructure of the library itself (Bertot & McClure, 2003; Bertot, 2004; Tomer, 1992). On the other hand, other factors are driven by user characteristics or qualities in relation to information communication technologies (ICT), such as their disposition toward IT (Kwon & Zweizig, 2006; Gorman, 2001). Thus social justice concepts that arise in relation to IT access in libraries include

- internal library decision-making and infrastructure and
- relevant attitudes of library users toward IT.

With regard to internal library decision making, LIS research shows that libraries often function with a lack of sufficient funds to supply adequate IT facilities and purchase relevant resources (Healy, 1998). Libraries are increasingly considered as part of the larger organizations in which they are embedded and are forced to explicitly show their value, often through evaluation processes, in order to attain needed funding (Bertot & McClure, 2003). Additionally, libraries are often bound to external funding sources such as corporations, philanthropic organizations, and external government agencies that also require similar evaluations (Jue, Koontz, Magpantay, Lance, & Seidl, 1999).

Another important factor affecting IT access in libraries is maintaining

relevant and up-to-date infrastructure. As some scholars have reported, the inability of libraries to legitimate IT purchases as recurring rather than one-time expenses has made it difficult to maintain hardware/software at acceptable levels (Tebbetts, 2000). Bertot & McClure (2003) discuss the challenges presented by the dynamic nature of IT to outcome evaluation in libraries. Libraries are depicted as struggling to upgrade existing and adopt new technology relevant to current needs, and to acquire the continual funding needed to do so. Bertot & McClure (2003) claim that one solution to these challenges is to start defining "outcomes" in more context-specific rather than universalized ways, thus defining outcomes relative to the specific populations being served. Finally, another important factor related to IT access in libraries has been the lack of IT standards across libraries. As Tomer (1992) explains: "Information technology standards may be viewed as blueprints for survival, allowing interoperability of systems and sharing that will be essential to the continuation of high-quality library services" (p. 566). Thus libraries are less able to collaborate and integrate IT solutions due to the lack of such interoperability standards. Setting such standards may have the effect of bringing together libraries to provide more complete and robust resources to enhance their services (Allen & Hirshon, 1998).

While there has been little research examining specific attitudes of individuals toward information technology in a library or school library context, several studies exist that examine user attitudes toward IT in educational contexts, though these studies rarely explicitly address libraries. For example, Vannatta & Fordham (2004) surveyed 177 K–12 teachers to measure their attitudes, finding that teachers' willingness to take risks and commit extra time to IT proficiencies, in conjunction with training, led to higher probabilities of technology adoption/use in classroom settings. Though one might infer that libraries are important in providing such training and off-scheduled commitment time, they were not a focus in that study. From a more relevant perspective, Kwon & Zweizig (2006) investigated the effect of psychological and demographic factors on the use of community information and communication technologies using a survey methodology. This study found that people used the community network more often when they had a favorable impression of it (attitude) and when they had no other Internet access points (alternate service accessibility). Interestingly, this research indicates the need for more partnerships between community networks and libraries; it also reveals that those without alternative choices of Internet access resembled the demographics of those who suffer because of the "digital divide" (Kwon & Zweizig, 2006, p. 98). It follows from this discussion that the strategies observed for upholding particular social justice principles will address—and, perhaps, improve—informational conditions based upon these particular factors of IT access in school libraries.

Research Methods

The research reported in this article formed part of a larger study undertaken by the Center for International Scholarship in School Libraries (CISSL), affiliated with the School of Communication and Information at Rutgers University in New Brunswick, New Jersey, in 2010–11. Todd et al. (2010) performed a two-phase study in 2009 that sought to construct a picture of the status of New Jersey's school libraries in the educational landscape and to understand the contribution of quality school libraries to education in the state. The research, unlike the social justice–centered analysis and findings reported in this article, also sought to understand the contextual and professional dynamics that inhibit and enable school libraries in contributing significantly to education in New Jersey and, consequently, to make recommendations to stakeholders to develop a sustained and long-term program of capacity building and evidence-based continuous improvement of school libraries (p. 3).

Phase 1 of the study involved a voluntary survey of 765 school librarians (representing 30 percent of public and private New Jersey schools, K–12) based on the following areas: school library staff, teaching and professional activities in the school, reading- and writing-related activities in the school library, administration of the school library, and school library resources, access, and budgets (Todd et al., 2011, pp. 3–4). The sample for Phase 2, reported on in this article, was derived by selecting those schools from Phase 1 that indicated high levels of classroom teacher/school librarian instructional collaborations, as well as high levels of IT, resource, and service provisions (pp.12–13).

Participant Population

The seven focus groups from Phase 2 consisted of district administrators, school principals, curriculum coordinators, school librarians, a director of technology, and classroom teachers from Grades 9 to 12 and different subjects (see table 1). The selection of the focus group participants was spread across these roles to get a complete picture of perceptions of the given school's library (Todd et al., 2011, p. 13). The sample was 60 percent female, but this was indiscernible from the transcripts for the focus groups chosen here (p. 21). The median incomes for the areas in which each school was situated were separated by approximately $5,000, which was not considered to be a significant difference (pp. 17–20).

Data-collecting Instruments

A focus group protocol and a set of questions were created to maintain methodological consistency (Todd et al., 2011, pp. 13–15). For more in-depth description and discussion of the focus group questions themselves, please see Todd et al. (2011). Table 2 lists the main objectives of the Phase 1 and 2 studies from Todd et al. (2011). These questions contextualize the direction of the focus group questions listed in table 3. At the heart

Table 1. Phase 2: Focus Group Composition of Todd, Gordon, & Lu (2011)

Focus Group	Participants	Total
FG1	2 Teachers, 1 Instructor, 1 Librarian, 1 District Administrator, 1 Principal	6
FG2	5 Teachers, 1 Librarian, 1 District Administrator, 1 Principal	8
FG3	1 English Teacher, 1 Life Science Teacher, 1 Spanish Teacher, 1 Language Arts Supervisor, 1 Literacy Librarian, 1 Librarian, 1 Principal	7
FG4	1 Math/Science Teacher, 1 Science Teacher, 1 Language Arts Teacher, 1 Social Studies Teacher, 1 Special Education Teacher, 1 Librarian, 1 Principal	7
FG5	1 Social Studies Teacher, 1 ESL Teacher, 1 Health and Phys. Ed. Teacher, 1 English Teacher, 1 Principal, 1 District Curriculum Director, 2 Librarians	8
FG6	1 English/Social Studies Teacher, 1 Social Studies Teacher, 1 Language Arts Supervisor, 1 Librarian, 1 District Administrator	5
FG7	1 English Teacher, 2 Social Studies Teachers, 1 Math and Computer Science Teacher, 1 Language Arts Teacher, 1 Supervisor of English, 1 Director of Technology, 2 Librarians	9

of these objectives are a) understanding how school libraries contribute to student learning through current exemplary practices; b) identifying areas in need of further attention; and c) recommending ways to enhance practices.

The questions in table 3 illustrate the initial direction of the focus group questions, with particular emphasis on understanding how the school library functions as a site for interaction, engagement (question 1), learning contributions (question 2), and as an enabler of a dynamic learning environment (question 3). While these questions functioned as general starting points, they led to a rich discussion of broader in-situ school library concerns. More importantly, a central aspect of these focus group objectives and questions was to set up a malleable scaffold for discussing practical school library issues in order to allow the participants to set the more specific terms for discussion relating to their specific school environments. This allowed participants to freely identify concerns in their environment that the researchers might otherwise have missed with a more structured set of questions. The authors feel that social justice concerns, for example, became an important part of the discussion because of the principled but open nature of our questioning.

Table 2. Objectives of Phase 1 and 2 of Todd, Gordon, & Lu (2011)

Research Objectives

1. Construct a picture of the status of school libraries in the educational landscape of NJ
2. To understand the contribution of quality school libraries to education in NJ
3. To understand the contextual and professional dynamics that inhibit and enable school libraries to contribute significantly to education in NJ
4. To make recommendations to NJ stakeholders to develop a sustained and long-term program of capacity building and evidence-based continuous improvement of school libraries

Table 3. Question Themes for Focus Groups from Todd, Gordon, & Lu (2011)

Question Themes
What do students actually learn through their interaction and engagement with the school library?
In what ways, if any, does the school library contribute to school learning?
What is it about this school that has enabled the school library to reach this status? If you could change things, what would they be?

Data Coding and Analysis

The transcript data from the focus groups were analyzed using an emergent method (Charmaz, 2008) whereby iterative coding was done to build an inductive understanding of our phenomena of study (the coding process is discussed further below). Emergent methods utilize open-ended approaches to investigating dynamic phenomena in order to pursue previously unanticipated directions for research (Charmaz, 2008). In-vivo codes were used where possible, and the codes were collapsed into common categories where appropriate. The final coding scheme utilized a counting method whereby all codes had at least 30 percent of responses from both focus groups (i.e., any code without at least a 30 percent response rate from each group was eliminated). This was done to ensure that all codes had sufficient responses from all of the focus groups to avoid them being indicative of only the opinions expressed in any one group.

The initial stage of coding was focused on identifying statements that invoked the aforementioned social justice principles within the focus group discourse. In order to group statements under these principles, first the statements were analyzed through an emic coding process, in which codes were applied based on the general social justice ideals implicit in each statement's content. Thus, if a respondent discussed the idea of dividing specific classroom tasks between teachers and/or school librarians, that statement was coded for "role collaboration." After several iterations of this emic process, common codes were combined using a process of etic coding under the specific aforementioned social justice frameworks in which the general social justice ideal would apply. To continue our example, those statements with the code "role collaboration" were categorized under the "Utilitarianism" category, as this sort of collaboration through a division of labor was seen as a tool that was leveraged to the utility of the teachers and librarians (each category is explained in more detail below).

After this etic coding process, statements in the categories were broken down into more granular subcategories based on an emic coding process in which the similarities and other patterns between the statements, based on a particular social justice concept of interest, were used to make sense of the within-category connections. So, for example, the Equality of Access to Advantage category was seen as containing two distinct subcategories of statements based on the character of the social justice content

and strategies put forth by the participants. This process of reducing and expanding the codes and categories based on emic and etic processes was particularly useful in identifying the subtle differences between strategies used by respondents in providing IT services, because it required a careful reflection on these strategies within the framework of their specific tasks and school context. We believe that a coding process that doesn't engage content in this manner would possibly miss the subtle differences between specific social justice strategies as they connect to specific types of tasks. The iterative nature of this coding process was used to establish intracoder reliability and to ensure the fit of the data to the particular categories below. The findings produced in table 4 are discussed below in the Findings and Discussion sections.

Research Limitations
There are several limitations worth noting about this research. First, the coding process focused on intracoder rather than intercoder reliability. While such coding may be subject to researcher bias, the iterative nature of the coding process coupled with the use of strategy identification should provide sufficient evidence of the relationships found. Second, this research focused on high-achieving school libraries in a particular state, thus generalizability of the findings may be bounded by these conditions. However, the methodology formulated for assessing the data collected can be repeated in similar settings to provide wider applicability. Third, the data analyzed in this study are based on retrospective accounts of teachers, school librarians, school principals, and other school system employees, and therefore may be subject to respondent bias. These data did not, for example, include input from the student body. Again, further studies may be conducted that use a similar methodology to assess more situated actions of respondents (see Dadlani, 2016; Dadlani & Todd, 2016).

FINDINGS
Several findings arose from this study related to a) social justice principles underpinning library and pedagogical decisions around IT; b) a typology of strategies for enabling these principles that arises across the focus groups; and c) a simple framework for understanding the context in which particular social justice principles and strategies arise and are used. The discussion below describes in detail how participants use social justice principles in providing IT services to their constituents. Across the participants, particular social justice principles are used that match situations in which they are perceived as being the most helpful. Utilitarianism and different forms of egalitarianism are the predominant social justice principles used by participants, depending on qualities of the situations encountered. Most importantly, this research yielded a typology for understanding what kinds of social justice principles are enacted with particular strategies regarding IT and related services (see table 4). This typology

Table 4. Coding Definitions and Implementation Strategies

Category/ Subcategory	Definition	Types of Strategies Used
Utilitarianism/ Time Management	Strategies/comments that support the manipulation/re-configuration of instructional time in an effort to meet the needs of the many	Block scheduling, multiple teachers (divide and conquer), efficient chunking of classroom time
Utilitarianism/ Collaboration as Leveraged Utility	Strategies/comments that refer to the use of collaboration as a tool to distribute work and maximize learning for the many	Student-as-teachers, independent group discussion, librarian-teacher combination, split research teaching duties, group-level learning
Utilitarianism/Data Driven	Strategies/comments that rely on standardized data to distinguish what particular bundle or market of resources to provide for the many	Teaching environment as information bazaar, inputs to process from standardized data
Equality of Resources (ER)/ Time as Resource	Strategies/comments that construct time as a resource in itself to which individuals have equal access	Flexible scheduling, continuous instruction, regular "library" period for students as constant, use of subject matter literacy experts, extended library time off-hours
ER/Open and Customizable Information Technology	Strategies/comments that promote the use of information technologies in open and customizable ways	Classroom/library arrangements to promote openness and integration, independent learning, open Internet access
ER/Breadth of Resource Choices	Strategies/comments that promote multiple types of information technologies as resources for engaging in information-seeking activities of different styles	Multiple types of information technologies for similar information, teacher-specific as well as student-specific technologies, institutional research database subscription, spaces with more capacity
ER/Extension of Information Technology	Strategies/comments that provide opportunities to individuals for extending the temporal and spatial dimensions of information technologies as resources	Social media as virtual learning tools, expanding the library through mobile labs, Wi-Fi–enabled building, equipment loan program
ER/Technology Support Sources	Strategies/comments related to the provision of a variety of information technology support and training resources	After-hours training for students and teachers, external training for teachers, librarians-as-expert-resource about information technologies, on-demand services, centralized space for posting teacher-specific information
ER/Collaboration as Alternate Resource	Strategies/comments referring to the use of information technology as instruments for creating collaborative resources	Group-level learning, librarian as coteacher, provision of an interaction space for students, social media for cross-class collaboration (within school), opt-in teaching

Category/Subcategory	Definition	Types of Strategies Used
Equality of Access to Advantage (EA)/Collaboration for Lifelong Learning	Strategies/comments related to providing access to expertise made available through collaboration with "peers" about information technology knowledge that is relevant to core lifelong learning opportunities	Librarian as collegial peer, teachers and librarians serving multiple roles simultaneously, librarian-as-expert-resource, opportunistic learning by teachers from media specialists, librarian teaching students and teachers simultaneously, coordinated resources for specific learning goals (gathering different teams to accomplish same process)
EA/Developmental/Essential and Personal Skill Resources	Strategies/comments related to providing access to a particular bundle of training resources specifically relevant to lifelong learning and advancement	Specific forms of training: Organizational skill training, Internet evaluation training (good vs. bad resources), research-specific skills, using learning models with facilitation, digital literacy training (online responsibilities for ex.), training based on student data (what do they need?), 21st century learner skill training (email, basic technologies), specific professional development training for teachers based on curriculum standards, self-learning/empowerment opportunities for students
Equality of Capabilities (EC)/Personalized Lifelong/Welfare Skill Development	Strategies/comments related to more open markets of information technology support services focused on building skills needed for the basic functionings and welfare skills of individuals within their particular context	Tailored forms of training: one-on-one attention related to basic digital literacy, inquiry skills, Internet evaluation, basic technologies, and other research specific skills. Also, providing hands-on guidance to overcome personal barriers (e.g., reluctance to use social media). Teacher interventions on student learning/activity.
EC/Enabling of Functionings	Strategies/comments that promote customized information technology training and support services for particular disadvantages that affect core lifelong functionings, including disabilities, core deficiencies, or other similar disadvantages	Providing specifically tailored and focused resources for the disadvantaged (special reading or writing programs, alternate technologies for different types of learning, specific books to help certain populations, etc.). Providing basic technological access in an open environment and making it highly available (providing basic tools possibly not available in the home-setting).

may itself prove to be a useful heuristic for educators in understanding their own practices. Also, the methods used here may also be instructive for organizations interested in evaluating their own practices in terms of some set of social justice principles.

Utilitarianism
The Utilitarianism category contains statements from respondents that reflect providing the greatest good for the greatest number in terms of the provision of information technology and related services within the school environment. The category comprises three distinct subcategories: Time Management, Collaboration as Leveraged Utility, and Data Driven strategies.

The Time Management subcategory reflects a myriad of utilitarian strategies that attempt to use allocated class time in ways that bolster effective student learning around information technology. The concern across this subcategory is that students require an overwhelming amount of attention—while their own attention spans often are short—but time available in the school environment is limited, which in turn constrains what is possible for teachers, school librarians, and students to accomplish in terms of learning needs and goals. As one respondent noted: "Well[,] I think what we've seen over the years is that the kids have shorter and shorter attention spans. So what they want us to do is 'Show me and then let me go.' We have to really be careful that [*sic*] when we plan our lessons that we take that into account. We have only a limited amount of time where they need to go and then we lose them. Their attention span [is] gone. They want the computer. When they come down they want to be actively involved. They only want to listen to us for so long and then that's it. And then we're done. Get me to my computer" (Librarian, FG2).

The following respondent from the same focus group speaks about how information technology, such as a web page, can be used to create time efficiency by prescaffolding tasks in order to free up teachers to do more in classroom situations: "So that as a teacher, I've 130 kids standing in front of me saying 'Wait, wait where does the period go on this reference?' I know that [librarians] have already sat down and said you know what, we've put that whole MLA guide up on the web site so just tell them to click through to page 39. And you know I have that resource readily available and I've been meaning to think, 'hey that would be great online,' it's there. And all of that technology stuff is really handled behind the scenes to make our jobs easier as classroom teachers" (English Teacher, FG2). Here the teacher responding speaks about how information technology—in this case, a web link—could be used to centralize resources, thereby reducing instructional complexity and making it easier for teachers to effectively meet multiple needs. In response to this type of concern, several such strategies were proposed by respondents, including, most notably, the use

of block scheduling and of additional teachers/school librarians to address groups of students within the time constraints.

It is important to note here that this use of additional teachers entailed simply providing the same assistance to multiple students within a period of time. The next subcategory, Collaboration as Leveraged Utility (CLU), focuses more on how such collaboration could be used to divide specific duties or areas of study between teachers and/or school librarians. The CLU category contains strategies that involve collaboration as a means to leverage the utility of the many to meet the needs of the many. Independent groups with group leaders and the use of school librarians and teachers as distinct resources in a single classroom are examples of these types of strategies. In contrast to the Time Management category, the strategies in this category are focused on manipulating teaching/learning functions via collaboration to cope with time constraints, whereas the previous category manipulated time constraints to allow teaching/learning functions to reach a broad audience. For example, this respondent (as well as the next) discusses a shift away from the traditional model of the teacher addressing an entire class to a model using student leaders and groups *to address IT or other needs*: "By the third year I had them set up in groups where there's a head of each group and there are five groups of four kids, there's a head of each group then there's a person on top of that before it gets to me. So the questions from the group have to be asked of the head person, if they don't know, they go to the other student, then if they don't know, then it comes to me. It's eliminated about eighty percent of the questions. Because some of them are just that [*sic*] they didn't understand, so one of their fellow students can say well this is how you do it. That's eliminated about eighty percent of the questions and the redundancy . . . It freed me up a little bit" (Teacher 3, FG1).

In this statement we see a successful pedagogical strategy that uses student collaboration to enable the teacher to concentrate on other teaching/learning objectives while still meeting the various needs of students, who are instead instructed by their peers. Another example involves a media specialist and teacher speaking about the use of teacher collaboration as a supplementary strategy to using group leaders:

> Media Specialist 1, FG7: "I was going to piggy back on the library council because those student[s] all learn, as we said, how to use all the equipment, delivering the equipment, helping the teacher that [*sic*] they bring it to set it up. They are troubleshooters. [Media Specialist 1] can call one [and] send them somewhere, helping to set up things in this library and actually know where technology belongs, the resources, the DVDs, all of that. They use the computer to check items in and out so they learn a lot from being up here."

> SS Teacher 1, FG7: "They actually become the leaders. If you look at them, they help the other kids, if they can answer something they help,

> and if they can't they'll look for the media specialists. And I think that
> that is a skill they need to learn, if somebody needs help then help them.
> If they need to share whatever knowledge that they have."

Here we see that media specialists (the school librarians) become important collaborative partners who can essentially handle particular teaching responsibilities, including IT service issues, thus reaching more students within the constraints given either through the media specialists or the media specialists' delegated IT helpers. More importantly, because this type of approach leverages the specific expertise of the school librarian, it is more efficient than simply duplicating the tasks of teachers. In other words, rather than using several of the same resources to provide the same types of service, this approach breaks down responsibilities so that there is more specialization and focus by each teacher/school librarian on student interaction.

Finally, though less frequently, respondents often speak about using Data Driven "open hub" strategies, in which data from standardized tests, institutional reports, or other generalized impressions about respondents' particular classes were used to determine what the overall information needs of the students might be with regard to technology. The theme that seems apparent in these strategies is the use of such data to determine what kinds of information might be useful to students/teachers, and then to create an open information exchange in which students and teachers can engage to fulfill their information needs. This approach relies on the data from which it derives in order to construct the library as a place to fulfill those specific needs thought to reflect the needs of the many. As an example, a respondent spoke about using New Jersey Assessment of Skills and Knowledge (NJASK) data to identify what the classroom information need was in regard to "information text." Other respondents spoke about students engaging the library as an "open hub" of experts available to answer questions and exchange ideas.

Equality of Resources (ER)
The Equality of Resources category contains statements from respondents that refer to both the advantages and disadvantages of variations in the amount and types of information technology resources within the school environment and the access to these resources, in terms of both hardware/software and support services. Concerns in this category are similar to those of the Utilitarianism category but focus more on equalizing access to resources and allowing self-selection by individuals based on a wide variety of learning styles. This category contains the most statements from respondents (approximately 50 percent of all coded statements) and is made up of six distinct subcategories: Time as Resource, Open and Customizable Information Technology, Breadth of Resource Choices, Extension of Information Technology, Technology Support Sources, and Col-

laboration as Alternate Resource. Several of these categories are discussed in depth here, with more information found in table 4.

The Time as Resource category refers to the respondents' varied uses of time management strategies to efficiently use instruction time in providing equal access to expertise around information technology. Respondents spoke about how time was a major constraint in the learning environment: "Our librarian had a point about hours but I'm going to add on, if I may, during the summer we have IMC [Instructional Media Center] hours as well. And it's a great opportunity for staff to come in if we're collaborating on a project or need help or if we want to use some specific electronic tool. It's a great time to have the one to one session with some of our librarians that are so busy during the school year[,] that can spend a little bit more time [than] during the school year" (Health Teacher, FG5).

In addition to this perception of time as a constraint, respondents also acknowledge it as a particular resource that enables the provision of their expertise: "I think as far as the facilities, our hours allow for us to contribute to student learning. We're open a half an hour prior to the school day and officially tutorial ends at 2:50 and on Mondays and Fridays we're open till 3:30, Tuesday, Thursday, 4:30. So that allows some time for students to access those (information technology) resources. And unit lunch" (Librarian, FG5).

The Open and Customizable Information Technology, Breadth of Resource Choices, and Extension of Information Technology categories relatedly refer to the wide variety of customizable information technologies available and the use of such information technologies to extend the spatio-temporal boundaries of the school/library environment, respectively. Respondents referred to the library as a "clearinghouse" in which "you have access to a myriad of resources that any staff member or student can go in and take out." Additionally, students are seen as being able to "develop their own style of research here too because everyone is comfortable with different means." In addition, information technology is framed in terms of its ability to extend the spatio-temporal boundaries of the library in the form of mobile carts and laptops, as "what can be done in a classroom sometimes is sort of an extension of what is done here." Another important idea that rose out of the respondents' discussions was the central nature of the school librarian as a technology support resource:

> Lang. Arts Teacher, FG12: "It's [the library] a great technological starting point. I use the library and the school librarian as a resource, especially when you are teaching a large group of kids."

> English Teacher, FG7: "Just to add on to what [Media Specialist 1 and Supervisor of English] said, it [the library] functions almost like a computer lab and a library and it is a comfortable learning environment where the students want to be here and they know that they will be able to come here and get their work done and there will be people here to

> help them if there are any problems or questions with technology or
> even with their research or homework, whatever they're working on."

In these examples, respondents highlight how the school library can be
seen as an information technology hub that provides equal access ("com-
fortable learning environment") to IT support for students regardless of
their particular information needs ("any problems or questions"). Overall,
the statements made in these categories/subcategories, as shown in table
4, posit several distinct uses and factors of the school library in providing
some form of information technology resources to students.

Equality of Access to Advantage (EA)
The Equality of Access to Advantage category contains statements that
relate to the promotion of lifelong skills (welfare) in using information
technology resources by either students or teachers. Unlike strategies in
the ER category, which tend to provide open-ended information technol-
ogy and resources, these strategies involve providing equal, passive access
to specific information technology resources and services that address
lifelong learning. This category is made up of two distinct subcategories:
Collaboration as a Resource for Lifelong Learning and Access to Lifelong
Learning Resources.

　The Collaboration as a Resource for Lifelong Learning subcategory re-
fers to the provision of expert technology services available to respondents
on demand through collaboration with school librarians. Similar to some
other subcategories, in these cases respondents are able to step out of
their comfort zones through hands-on collaborative learning experiences
with school librarians, thereby not only leveraging the school librarian
in teaching the class but choosing to take on such learning on demand
and picking up the same competencies for their own lifelong skillsets (for
future use):

> Principal, FG5: "So, what happens is, I think the librarians challenge
> the teachers to step outside of their comfort zone because they [do]
> step outside of their comfort zone. I can think of . . . recently we had
> one individual who was really very opposed to technology. Really not
> very supportive of it and yet after one of the librarians worked with this
> individual and created a lesson presentation, the person's blogging."

> English Teacher, FG5: "I've had very similar experiences to [Teacher
> 2] in that a librarian here will not only learn whatever it is that we need
> in terms of our own technology or research skills but will also learn
> alongside the teachers and help the teachers to understand the mate-
> rial as well. And understand the skills, tools as well."

Respondents have here highlighted the comfort zone created by the
school library, and the immediately available nature of particular types
of information, as among the library's particular strengths and core func-
tions. There is also a palpable sense that these types of strategies are fair

and contribute more in terms of efficiency (teaching multiple audiences at once) and longevity (the skills are in a sense transferred from the school librarians to the teachers). The Access to Lifelong Learning Resources subcategory similarly deals with lifelong learning skills but differs in that a variety of learning resources are made available (as in a marketplace) and target student needs. The core concern in this category is with developing *not just particular tangible skills*, such as using certain types of information technology, but also cognitive or organizational skills seen as integral to lifelong learning:

> Teacher 2, FG3: "I think both of these things are very important to develop their sense of independence and responsibility for their own learning and moving forward for lifelong learning, but also the democratic prospect of having them work together."

> Teacher 6, FG3: "[The most important skill for students is] student curiosity, them being able to go on and want to know more, want to find out more, and having the research skill and ability to do that[,] I think is huge."

> Lang. Arts Supervisor, FG5: "The library serves as a learning tool to support every avenue of education rather than just as a microscope just supporting biology or a chalkboard just supporting note taking. So the library becomes more all-encompassing as a tool that supports learning."

Here we see the idea that "just" teaching school-specific skills, for information technology or otherwise, is not enough, but that addressing the "learning of learning" is a core concern. An additional concern in statements from this category revolved around providing resources to support lifelong learning for a variety of populations and using empowerment as a guiding philosophy for such learning: "There is no longer the card catalog, which they had when I first started here, it's all online. They do get a sense, even my lower functioning ones, how books are housed in the library and hopefully they would bring that resources [*sic*] to them later on in life as they move to different libraries[,] just the basic structure" (Special Ed. Teacher, FG4).

Equality of Capabilities (EC)
The Equality of Capabilities category contains statements that relate to the promotion of lifelong learning to assist students/teachers with specific functionings that are seen to need further development. Unlike the EA, category, which focuses on a passive provision of resources for lifelong learning, these statements refer to more tailored and customizable information technology services that actively address core disadvantages in terms of functioning in a modern information technology environment. This category is also made up of two interrelated subcategories: Personalized Lifelong Learning Programs and the Enabling of Functionings.

The Personalized Lifelong Learning Programs subcategory contains statements about the provision of core IT skills, the lack of which can be seen as an impediment to lifelong learning from a basic level of functionings. These statements highlight the poverty in terms of literacy that students/teachers/school librarians might have that are essential public goods in terms of lifelong learning:

> Teacher 3, FG3: "I think that there's an assumption that because members of this generation are considered digital natives, that they're completely tech savvy and are able to use the kinds of programs that are in demand in our workforce. But when I have my freshmen come in, I find that a lot of them are not proficient in Microsoft Word, they're not proficient in PowerPoint, they're not proficient on the Internet."

> Lang. Arts Supervisor, FG5: "So the librarian's role is two-fold: there's supporting what goes on in every content area so that they have to know what's going on globally[,] but then they have to be able to support the inquiry skills that the students need to be able to conduct research or to use software, to locate a book. So in terms of contributing to the learning process, the library does it, but on two different levels. In terms of content support but also inquiry skill support. And sometimes those skills are sometimes more imperative than the content because they are lifelong skills that the teachers are supporting through their content as well."

The Enabling of Functionings subcategory also refers to statements made by respondents concerning the provision of services for students/teachers/school librarians with specific personal needs. In particular, as with the EA category, the statements build on the safety of the school library in meeting individual needs, some of which might be sources of discomfort or embarrassment for patrons and are typically based on socioeconomic hardship, disabilities, or just a lack of "expected" skillsets:

> Librarian, FG2: "Not everybody has Internet access at home[,] so they can come here [the library] and complete assignments that require that."

> Librarian, FG7: "[21st century learning, what does your library need?] Having adults in the community that would come in and just be able to provide the service [tutoring on IT and other basic skills] to [students]. Be encouraging. Because I have students whose parents really struggle with reading."

Here basic human hardships, such as lack of literacy and information access, are considered key targets of service provision; the inequalities between individuals that are seen as supporting basic functionings become an essential goal in terms of information technology. School libraries, in a sense, act as an extension of the home environment, filling in foundational gaps experienced by various types of disenfranchised groups by

providing the nonthreatening channels and resources necessary for addressing such specific hardships. Other statements in this category make reference to similar foundations in terms of providing resources to meet specific needs:

> SS Teacher, FG4: "The special education teacher and I work together quite a bit during the year and we have students that read at a second grade level all the way up to a tenth grade level and we have resources for all of those students."

> Principal, FG3: "It's a goal of ours to always improve our technology. But I think beyond a doubt, it's the person that's actually in the building. The kids feel comfortable going in and speaking to [the librarian] about concerns that they might have. It might not even be about a library kind of a project, it might be about something else. Just the fact that there's somebody here that they feel comfortable and are able to speak with, and that they're not intimidated, and they know they're going to get a truthful answer."

Discussion

Several important patterns emerge from this research that are indicative of how school libraries function in terms of information technology services and how teachers use strategies to meet different sorts of needs. Across the categories there is a contextual continuum on which teachers/school librarians seem to function. Starting from the Utilitarianism category, we see that the strategies used in the classroom tend to be the least contextual as they attempt to deal uniformly with all students, regardless of particular needs. This is evidenced by the use of such strategies as block scheduling, the use of "divide and conquer" strategies by teachers, and the use of group learning strategies in teaching the most students as effectively as possible. The statements around these strategies imply a more passive and reactive approach to teaching, as they rely mainly on the efficient use of time and resources to accomplish the greatest good for the greatest number.

In relation to the ER category, we see more materials-based strategies, such as acquiring more specific or expert resources, space, and time with which to address student/teacher needs. In this case, rather than working to make the most efficient use of what is available, the acquisition of more resources is seen as a way to support deeper learning for students through the provision of services. These strategies are still reactive, relying to an extent on students seeking out the particular resources that might help them. However, unlike the more utilitarian strategies, here teachers develop an environment in which they can be more proactive in providing resources that meet particular needs. For example, block scheduling allows for the manipulation of classroom time in order to maximize it within the constraints of the typical day; the creation of after-hours train-

ing (or the use of mobile carts, for that matter), however, modifies the very boundaries of the classroom. Shifts in strategy such as these signal a more active construction on the part of teachers/school librarians.

The EA and EC categories, respectively, follow a similar pattern, and strategies in these categories shift from being materials-based to more means-based: that is, they take the particular needs of students into account in creating opportunities. The use of one-on-one training that focuses increasingly on tailoring services to meet the needs of individuals differs greatly from just making particular learning resources available. This is because such training implies an engagement with the very particular needs of the students, whether those be intellectual, socioeconomic, or otherwise. In other words, strategies in these two categories are proactive in that the needs of each particular student/teacher tend to define what particular opportunities are created.

In addition to the emergence of this pattern through the strategies used, the way respondents spoke about each of these categories reflects the same shift. That is, respondents often credited the success of their information technology provision to the more proactive strategies or wished that such opportunities were made available for further improvement. In light of these findings, a continuum of social justice principles can be observed in the ways in which teachers/school librarians use strategies in providing information technology and other services. Respondents clearly valued more proactive and contextual strategies that reflect particular social justice principles (see Dadlani & Todd, 2014, for a more detailed discussion).

Conclusion

This research found that extant philosophical social justice principles, whether intentionally or not, seem to have a connection with particular types of pedagogical strategies. Thus social justice is taken as a central focus, and philosophical literature on the subject has been applied in analysis. In this sense, this research pushes for a more critical focus of social justice as a metatheory for LIS research (Mehra et al., 2006). Additionally, while school libraries frequently espouse social justice principles in terms of their goals/objectives, little research has been done that attempts to validate these claims; this research attempts to do so through close analysis of the connection between such broad principles and the actual strategies employed by teachers/school librarians in providing information technology and other services.

Future research may benefit from more critically evaluating such espoused ideals. Furthermore, teachers and school librarians may stand to gain from understanding how their specific classroom strategies and designs lead to particular ideas of social justice in the pedagogical process and how such ideas may help them achieve specific desired outcomes. If

schools and educational authorities are to understand the critical and essential interplay between social justice principles, the pedagogical goals of the school, and resourcing and infrastructure needs, then the methods used in this study may be a useful example of the evaluation of that interplay.

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