Educational Support for Saudi Students with Learning Disabilities in Higher Education

Mohaned Ghazi Abed       Todd K. Shackelford*
King Abdulaziz University Oakland University

Dr. Mohaned Ghazi Abed is an Associate Professor in the college of Educational Graduate Studies at King Abdulaziz University in Jeddah, Saudi Arabia. Dr. Todd K. Shackelford is Distinguished Professor of Psychology at Oakland University in Rochester, Michigan, USA.

Acknowledgements

This work was supported by the Deanship of Scientific Research (DSR), King Abdulaziz University, Jeddah, under grant No. 324-33-D1436. The authors, therefore, gratefully acknowledge the DSR for financial support.

*Corresponding author; email address: shackelf@oakland.edu
Abstract

Disability laws in Saudi Arabia mandate that higher education institutions provide support for special needs learners to ensure educational opportunities equivalent to their non-disabled peers. These institutions experience challenges, however, in providing the necessary support to undergraduate and postgraduate students with learning disabilities. We conducted an exploratory study to assess educational support requirements and affordances for undergraduate and postgraduate students with learning disabilities attending institutions of higher education in Saudi Arabia. We completed semi-structured interviews with 22 special needs learners diagnosed with a learning disability (16 undergraduate and 6 postgraduate). The findings suggest that additional support services are needed for undergraduate and postgraduate students with learning disabilities attending Saudi institutions of higher education.

Keywords: Saudi Arabia, educational support, postgraduate programs, undergraduate programs, learning disabilities
Educational Support for Saudi Students with Learning Disabilities in Higher Education

In Saudi Arabia, all individuals are expected to be provided appropriate access to academic activities, services, and programs. Disability laws therefore mandate that higher education institutions should provide appropriate support for special needs learners to ensure educational opportunities equivalent to their non-disabled peers (Almoady, Bokhary, Alhawas, Almayah, & Alabdullatif, 2013).

Saudi Arabian Legislation and Persons with Disabilities

The laws addressing persons with disabilities, also referred to as “Legislation of Disability,” regulate the provision of services. Legislation of Disability was enacted in 1987 as the primary legal document for persons with disabilities in Saudi Arabia. Legislation of Disability encompasses several provisions that safeguard the rights of persons with disabilities by ensuring that they enjoy the same rights and privileges as non-disabled citizens. Legislation of Disability includes several articles that define disabilities and that recommend initiatives for prevention and intervention and protocols for evaluating and diagnosing to determine eligibility for special education services. Legislation of Disability also requires that public institutions provide rehabilitation services and training programs that cultivate independent living (Ministry of Health, 2010).

A specific “Disability Code” was enacted by the Saudi government in 2000 to ensure that persons with disabilities have access to free and applicable medical, educational, psychological, rehabilitation, and social services provided by public institutions. The code further stipulates that the respective institutions assist eligible persons to secure access to health, education, habilitation, employment, training and rehabilitation, and other services (Prince Salman Center for Disability Research, 2004).

Such policy directives require that persons with disabilities enjoy equal rights as well as access to free and meaningful education as defined in the Teacher’s Guide for Learning Disabilities (2015). Although it has been many years since the enactment of these policy and legislative provisions, they have not yet been fully implemented, especially in the context of
learners with disabilities. As a consequence, there remains a notable lack of special needs education services for learners with disabilities (Alquraini, 2011).

**Definition of Learning Disabilities in Saudi Arabia**

Saudi Arabia’s Ministry of Education defines learning disabilities (LD) as “disturbances in one or more of the basic psychological processes involving the understanding and use of written or spoken language that appear in disorders of listening, thinking, speaking, reading and writing (spelling) and mathematics, which are not due to mental, audiovisual or other disabilities, or other types of disabilities, learning conditions or family care” (Ministry of Education, 2002).

The Teachers Guide for Learning Disabilities has provided further direction for identifying LD (Ministry of Education, 2015). These criteria identify difficulties as LD when there is an inconsistency between mental ability and learning outcomes, when other challenges that might account for such difficulties have been excluded, and when there is a demonstrable need for specialized education services.

**Navigating Higher Education in Saudi Arabia for Persons with Learning Disabilities**

Academic requirements and expectations often become more demanding when students with LD progress from undergraduate to postgraduate levels (Hadley, 2006). As they advance in their educational careers, students with LD may benefit from different forms of educational support, but also must learn how to advocate effectively for themselves (Hadley, 2006; Sclafani & Lynch, 2007). Owing to various factors, however, higher education institutions in Saudi Arabia experience challenges in providing the necessary support to undergraduate and postgraduate students with LD. One immediate challenge is that no previous research has identified the educational supports or services required by special needs learners in Saudi higher education. Moreover, there is no research investigating the types of educational support currently provided to Saudi undergraduate and postgraduate students with LD. In addition, no previous research has investigated whether educational support requirements differ for undergraduate and postgraduate students with LD in Saudi Arabia. Therefore, the current research investigated the types of educational support required, the types of support provided, and explored whether there might be
differences in this support for undergraduate and postgraduate special needs learners attending Saudi institutions of higher education.

Students with LD experience a range of academic challenges. For instance, students with LD often must invest more time reading assigned material, studying for exams, and writing papers than their peers without LD (Ofiesh, Hughes & Scott, 2004). However, because students with LD are not visibly disabled, their disabilities may go unrecognized (Janiga & Costenbader, 2002). Furthermore, when these disabilities are identified, but diagnosed as “mild,” many fewer support services are available, with the result that these students may be at particularly risk for academic failure, especially at the undergraduate and postgraduate levels.

Students with LD must adapt to the rigors of higher education while simultaneously struggling with a lack of academic preparedness or requisite social skills and developing time management skills to allow them to meet the more pressing academic deadlines (Winter & Yaffe, 2000; Parker, 2000). According to Cohn (1998), this normally stressful transition to higher education can be positively traumatic for students with LD. As such students transition into college, they are not only immersing themselves in unchartered intellectual waters, but also they are beginning a journey that includes unique challenges in terms of developing compensatory skills, maintaining motivational drive, and developing and maintaining healthy social relationships. Previous research documents, however, that with access to appropriate services, many learners with disabilities are able to thrive academically and socially in higher education, despite being delayed by approximately a year compared to their non-disabled peers (Greenbaum, Graham, & Scales, 1996).

Without appropriate support, college students with LD endure significant difficulties meeting academic demands, dealing with criticism, adjusting to college life, and adapting to change (Mellard & Hazel, 1992; Saracoglu, Minden, & Wilchesky, 1989). Burton and Fuhram (1994) argued that, as a consequence, college students with LD but without appropriate support are often forced to cope alone with myriad psychological challenges, including as depression and anxiety.
Holy and colleagues (1997) documented that, relative to their non-disabled peers, learners with disabilities displayed elevated levels of anxiety, persistent feelings of low self-efficacy, and telling inconsistencies in their abilities and academic performance. The findings support earlier research on college students diagnosed with LD, which documented greater anxiety, self-doubt, self-deprecation, and lesser self-confidence than was recorded among their non-disabled peers (Gregg et al., 1992). Gregg et al. (1992) also reported that college students with LD are more likely than their non-disabled peers to experience short-term and longer-term depression (see also Hatzes, 1996). Evidently, students with LD struggle with depression more often than their non-disabled peers in early childhood (Margalit, 1998), during adolescence (Reiff et al., 2001), and into adulthood (Morrison & Cosden, 1997), and this is reflected in higher depression rates for students with LD in post-secondary education (Gregg et al., 1992).

Worldwide, about 9% of all students enrolled in higher education report a disability of some type (e.g., Lewis, Farris & Greene, 1999); notably, LD comprise about 40% of these cases (Henderson, 2001). More than 25% of students with LD drop out during their first year of attending university (Izzo et al., 2001), often as a direct result of the challenges and pressures they experience with regard to academic, emotional, and social demands related to their disabilities (Harris & Robertson, 2001).

**Rationale for the Current Research**

In Saudi Arabia, as in the majority of countries that maintain a system of higher education, educational institutions are mandated to provide appropriate support for special needs learners to ensure educational opportunities equivalent to their non-disabled peers. Despite this mandate, however, there is scarce record of the types of support that Saudi students with LD need or receive in order to succeed at rates equivalent to students without LD (Al-Rashed, 2017). Accordingly, Saudi higher education institutions must identify and then promote educational practices that serve the needs of students with LD. What is clear from a review of the relevant literature is that educational policy may not consistently lead to appropriate and effective educational practice. In short, educational and other types of support likely to benefit students with LD are not consistently provided by institutions of higher education, in Saudi Arabia and in
many other countries that maintain systems of higher education (Al-Rashed, 2017; Graham-Smith & Lafayette, 2004).

A related concern revealed by a review of the relevant literature is the dearth of empirical research investigating educational and other support practices that might best serve the needs of students with LD attending institutions of higher education as undergraduate students or postgraduate students (Tagayuna, Stodden, Chang, Zeleznik & Whelley, 2005). What little research has been conducted has produced conflicting results, providing unclear direction for educational institutions (Tagayuna, Stodden, Chang, Zeleznik & Whelley, 2005).

A final concern revealed by a review of the relevant literature is that more than half of published studies have included samples with different disabilities, sometimes combining groups of students with different disabilities into single samples. One consequence of this is that there is a lack of research addressing best support practices specifically for students with LD. Alongside these concerns, we note that undergraduate students and postgraduate students are varied groups of individuals. Within and across these groups of students, their needs with regard to educational support may differ depending on their academic tasks and level of education. Although there is some research indicating that the needs of students with LD may differ for undergraduate and postgraduate students (Hadjioannou, Shelton, Fu & Dhanarattigannon, 2007), educational practices appear not to address or even recognize these differences (Ganschow, Coyne, Parks & Antonoff, 1999). The current research is an exploratory first step to identify the forms of educational support offered to undergraduate and postgraduate students with LD attending Saudi institutions of higher education.

Method

Methodological Framework

For research intended to examine the opinions of learners with disabilities regarding their specific experiences, phenomenography seems the most suitable approach for analysis of the interview data. Phenomenography is a research strategy that employs several methods by which phenomena are examined. The primary aim of phenomenography is to provide insight into phenomena and experiences through the identification of person-centered concepts in the
surrounding environment (Marton, 1981). This method places emphasis on the experienced, the conceptualized, and the apprehended. The objective is to identify and organize expressed thoughts (ideas, opinions, observations, etc.). Phenomenography is a qualitative approach to analyzing phenomena regarding the way people perceive a particular concept, with perception being pivotal (Punch & Oancea, 2014). Phenomenographic inquiry often involves identifying relationships between individuals and various factors in their environment. Through this approach, we focused on the theme of “educational support for Saudi students with LD in higher education.” As suggested by Marton (1981), the researcher probes the various notions (perceptions, observations) that individuals hold, then describes these notions, individually and, if possible, organizes them into interpretable categories.

**Research Approach**

The aim of this study was to explore the perceptions of students with LD regarding educational support in higher education. Following Marton (1981), semi-structured interviews were developed and administered to 16 undergraduate students and six postgraduate students with LD enrolled at King Abdulaziz University, with the aim of identifying their views about the types of educational support they desire or think are necessary for their optimum academic performance, and if any were, at the time of the study, being provided.

**Qualitative Semi-Structured Interviews**

As employed in the current research, a semi-structured interview is an instrument for qualitative study and is more informal and more welcoming than is often the case with a structured questionnaire. The primary aim of conducting an interview is to gain insight into an individual’s experience or perspective, as it is capable of capturing a wealth of information regarding experiences, attitudes, views, and perceptions. Therefore, interviews are designed to gain in-depth understanding of the interviewee’s environments, as well as their perceptions of themselves and their role in their environment.

Interviews are deployed to gather information that can shed light on the actions, attitudes and thoughts of the interviewee, in an effort to understand the specific experiences and perspective of the interviewee (Stukat, 2005). As conducted in the current research, and following
Stukart (2005), the interview is designed to provide insight into personal experiences, individual perceptions associated with these experiences, and understanding of the world in which such experiences are occurring. As observed by Patel and Davidson (2011), the interview approach is appropriate when the aim of a study is to identify experiences, attitudes, and actions of individuals as members of a target population. Considering that the primary aim of this study is to examine, explain, and describe the experiences and perceptions of students with LD, the researchers determined that a qualitative semi-structured interview would be the most suitable approach.

The interview questions for the present study were developed following guidelines provided by Kyale and Brinkmann (2009), as reviewed and discussed below. The aim of the interview was to collect information that would shed light on the views of students with LD regarding the kind of educational support they deemed necessary for optimum learning outcomes, and which, if any, were being afforded to them currently.

**Procedure**

Pilot interviews were conducted with several students with LD attending an institution of higher education in Saudi Arabia. Modifications were made to the interview guide in line with the feedback from the pilot interviews, with the goal to construct questions that were clear and easy to understand. In the main part of the study, prospective participants (identified and described in the Participants section, below) were contacted via telephone. Once they agreed to participate, participants were asked to speak freely and with confidence, as suggested by Kyale and Brinkmann (2009). Interviews lasted 35-55 minutes, with responses recorded as suggested by Berg and Lune (2017), for subsequent transcription.

The key to successful phenomenographic interviews is ensuring empathy to encourage participation and thus capture the realities surrounding the phenomena under study (Weinberg, 2002). In line with this premise, a combination of empathic responses, summaries, and open-ended questions were used, to encourage participants to be honest and forthcoming with their insights. Kyale and Brinkmann note that presenting follow-up, detailed, and (mild) probing questions, and incorporating well-placed silence is beneficial. The interview process followed these suggestions. Perception and actual experiences are closely linked, and the identification and
classification of these phenomena are the primary aims of this semi-structured interview (Berg & Lune, 2017).

**Participants**

Before recruiting participants, ethical approval was obtained from the Deanship of Scientific Research at King Abdulaziz University (KAU). Participants were 16 undergraduate students (age range: 18 -23 years) and six postgraduate students (age range: 28 -34 years) attending KAU. All participants were involved on a voluntary basis. The Special Needs Center at KAU was targeted to recruit participants as this was considered to be a sound method of ensuring participants were students with documented LD, and of ensuring the validity and applicability of any insights to the population of students with LD.

In this research, the sampling frame was obtained from the Special Needs Center at KAU. This department does not diagnose LD, but they assist researchers to recruit undergraduate and postgraduate students diagnosed with LD elsewhere, such as at hospitals, private centers, and schools. Table 1 details the participating students’ demographics.

**Analysis**

Upon completion of the interview process, recordings were transcribed and categorized in accordance with the perceptions of the participants. The basis of the categorization, in line with the principles of phenomenography, is the perceptions as presented by participants. In order to identify conceptions and categorise them accordingly, participant responses were occasionally reread, as suggested by Weinberg (2002). The underlying perceptions were captured through attention to the transcribed text, with the researcher afforded the responsibility to identify, interpret, and label the various categories’ names. Following categorization, meaning condensation was performed to abbreviate the meanings described by the participants, using shorter statements, as suggested by Kyale and Brinkmann (2009).

Following the presentation of the key findings (below), we attempt to achieve a balance in terms of providing interpretive commentary and presenting direct quotations from participants, as outlined by Hennink, Hutter, and Bailey (2015).

**Research Ethics**
Research ethics considerations, according to Mertens and Ginsberg (2009), include four factors, with the goal of respecting the ethical responsibilities of the researcher toward participants. Research ethics exist to provide balance between meeting research objectives and protecting the ethical integrity of the research process. Therefore, research studies must be conducted to safeguard the integrity of the research, but with sensitivity to ethical implications that may arise regarding confidentiality, informed consent, and other possible ramifications for the participant (Kyale & Brinkmann, 2009).

Mertens and Ginsberg (2009) note that an important ethical concern is that participation in a phenomenographic interview is voluntary. In the current study, this provision was adhered to by disseminating a letter to each prospective participant explaining the rationale of the study, while reiterating that participation was voluntary. This was guaranteed by a declaration that participants could withdraw from the study at any time, for any reason, and without penalty.

A second ethical concern encompasses “informed consent,” such that participants are provided with sufficient information about the research that allows them to make an informed decision about whether they will or will not participate in the research (Mertens & Ginsberg, 2009). During the interview process, participants were reminded about the research objectives and also of their option to terminate their involvement in the study at any point.

According to Ana (2008), the researcher ought to assure participants of confidentiality. In line with this principle, no one, other than the researcher, should be able to identify the participants. In the present study, participants were asked not to divulge personally identifying information. Consequently, during the transcription, no names were recorded. Participants were identified as ‘Interviewee 1,’ ‘Interviewee 2,’ and so forth. To protect the identities of the participants, only data relevant to the study concerning their backgrounds was recorded.

**Reliability and Validity**

Reliability is concerned with the universality of a phenomenon across participants, as well as whether the questions are applicable across participants. Therefore, greater reliability implies that similar research would produce similar findings (Weinberg, 2002). An important element of reliability in the context of phenomenographic interviewing concerns whether or not similar
findings might be produced by different researchers (Kyale & Brinkmann, 2009). In the present study, a professional and/or personal relationship was presumed to exist between the researcher and the participant. Encouraging researcher-participant engagement may increase the validity of the information secured (Kyale and Brinkmann, 2009). During the interview, researcher-participant interaction was kept professional by limiting conversation to the phenomena under study. Transcription of the recorded interviews was performed with focused attention to every word, with subsequent re-reading and listening to minimize errors.

According to Kyale and Brinkmann (2009), validity should be assessed occasionally throughout the study. The findings should be subjected to control tests and questioning, with the researcher performing theoretical interpretation. The consideration of validity is not outcome-oriented; rather, it lies in planning, design, interviewing, transcribing, and data handling. In the current study, control testing of the interview questions was conducted through the deployment of the pilot study. Participant responses in the main study were probed in a manner that provided opportunities to clarify, control, and validate responses. In transcribing the recordings/text, deliberate efforts were made to ensure the pre-agreed language style was maintained. In sum, the interviews were conducted to ensure that participants’ attitudes and perceptions were accurately captured and portrayed.

**Results**

The reported perceptions of special needs learners in relation to the forms of educational support available at KAU could be categorized into two groups of issues: (1) Issues with identifying the information needed in order to secure educational support, and (2) Issues with securing approval for disability services needed to complete coursework and satisfy program criteria. The participant quotes presented below were selected for their direct relevance to a specific research question and because these quotes reflected high frequency comments, providing a reasonable summary assessment of perceptions and experiences shared by participants.

Those students identified as having LD through hospitals, private centers, or schools communicated concerns over needing to be formally diagnosed in order to be provided with educational support services. It was suggested by one of the undergraduate students (U5) that a
test for identifying learning disorders at the university should be readily available. The student states that “I spent most of the academic year waiting to be tested, diagnosed, or receive the services with no response from the Special Needs Center at KAU”. Another undergraduate student (U11) provided the following statement: “Because of the diagnosis, when I was in [high] school, I was able to complete my exams in a special room with more time. It should be the same in the university”.

Another undergraduate student (U2) stated that, “There were various problems associated with receiving approval from the Special Needs Center at KAU, such as in regard to seeking a professional advocate to support my need for specific support mechanisms.” This was apparently due to the fact that there are no clear rules for receiving learning disability services at KAU. One postgraduate student (P4) explained the problems in securing support: “The department in question has a great deal of responsibilities and, therefore, cannot provide the necessary support”. Another postgraduate student (P2) stated that, "There should be degrees of educational support, with provisions according to individual needs.” Importantly, individuals with LD are not considered in the provision of educational support alongside other students with special educational needs, such as students with visual or hearing impairment.

Views held by students with regard to faculty perspectives on educational support were also addressed, with several students noting negative attitudes by professors when a request was made for educational support. One undergraduate student (U14) explained that, “There is a clear disinclination among faculty to provide educational support.” With this lack of faculty supportiveness, student ability to succeed academically is likely to be further reduced. This frustration was communicated by one postgraduate student (P3) as follows: “I have come to experience a great deal of resistance from my professors owing to the fact they do not believe in LD; however, to some degree, this is a pointless battle.” An undergraduate student (U1) provided his views on the attitudes held by faculty, stating that, “There is an unwillingness to invest additional efforts for special needs learners.” Accordingly, this student commented that, “Faculty workshops centered on teaching about LD and how these can be handled in terms of educational support should be provided as this could benefit the process of learning.” The perceptions of
students in regard to the forms of educational support and whether they are offered are presented in Table 2, with a number of methods recognized as beneficial. The administrative supports that could prove valuable in learning, as highlighted by the students, and whether they are offered, are presented in Table 3.

It was stated by both undergraduate and postgraduate students that administrative, examination, and other educational supports are necessary to ensure fulfillment of program requirements and completion of coursework. Nonetheless, mixed feelings were apparent among the students with regard to whether such educational supports would prove useful throughout their education. Overall, however, students considered them beneficial. One postgraduate student (P1) stated that, “Such accommodations enable improvements in grades,” and an undergraduate student (U15) commented that, should these accommodations not have been made, the student would have failed their classes. Two undergraduate students (U13, U9) noted that, as a result of accommodations made for their LD, they were able to work alongside their non-LD peers with greater confidence and feelings of worth. One undergraduate student (U6) commented that, “Accommodations are valuable in ensuring that I maintain the same pace of learning as other students.” A postgraduate student (P3) stated the same, with similar improvement in academic performance, causing the student’s academic confidence to grow.

It was also noted by both undergraduate and postgraduate students that some educational support measures recommended and approved by the KAU Special Needs Center were not honored or adopted by faculty. For example, it was stated by one undergraduate student (U8) that, “The department identified the accommodations I would need and informed my professors, but these were not accommodated. I did not receive any support from the department, meaning I did not get any further assistance.” Dissatisfaction was also voiced by a postgraduate student (P1), who emphasized the difficulties associated with administration of support services: “It can be humiliating as professors do not like to provide accommodations of any sort. The system and process are not very useful. It would be better if the relevant department spoke to professors and ensured the necessary accommodations were made.” Accordingly, educational supports are
recognized as valuable only when the relevant department and faculty work in concert to ensure appropriate administration of the recommended support services.

A number of pre-existing conditions were highlighted by the students, which warranted educational support, including problems in completing exams and course assignments. Table 4 presents a summary of these issues. The findings showed a number of inconsistencies between the support services requested by students and the measures approved and implemented by faculty. These findings further emphasize the importance of cooperation between the relevant departments, faculty, and students to ensure successful delivery of the appropriate support services.

Discussion

The findings of the current exploratory, qualitative, semi-structured interview study suggest that it may be useful to distinguish the educational support needs of undergraduate and postgraduate students with LD. With the progression from undergraduate to postgraduate programs, there may be an increase in the support requirements for students with LD (Hadley, 2007). Although postgraduate students reported some academic support, they also reported a clear need for further support given the increasing demands of postgraduate programs compared to undergraduate programs. And although there is evidence that successful undergraduate students with LD develop personal strategies for overcoming some of their disabilities (e.g., Reis, McGuire & Neu, 2000), these coping strategies can be insufficient in more demanding postgraduate programs (Skinner & Lindstrom, 2003). The current findings also indicate that both undergraduate and postgraduate might be better informed of services and accommodations available to students with LD.

Postgraduate students are typically expected to complete more demanding assignments and tasks than is usually required of undergraduate students (Skinner & Lindstrom, 2003). Accordingly, postgraduate students report greater need for one-on-one assistance and subject tutoring than is reported by undergraduate students. We suspect that this translates into greater relative need for educational support for postgraduate students compared to undergraduate students with LD (Graham-Smith & Lafayette, 2004).
The current research also suggests that, among students with LD, postgraduate students need more assistance with writing compared to undergraduate students. As noted by Miller and Irby (1999), a larger volume of reading and writing assignments is required in postgraduate than in undergraduate programs. Postgraduate students are often expected to demonstrate advanced writing and synthesis skills to complete their program of study (Hadjioannou et al., 2007).

Students with LD often report particular difficulties with reading, writing, and synthesis, and this may account for the more frequent reports by postgraduate students (relative to undergraduates) with LD for faculty to provide feedback on numerous drafts of papers and assignments (Ganschow et al., 1999).

Previous work indicates that students with LD can benefit from access to online technological support services (Tagayuna et al., 2005), and the reports of several participants in the current research are consistent with these findings. In addition, the current research suggests that, among students with LD, postgraduate students, in particular, recognize the need for greater support in completing writing-intensive examinations than is reported by undergraduates (Larson, 2006). This might also account for the finding in the current research that postgraduate students more than undergraduate students emphasized a need for exams to occur more frequently but cover a smaller volume of information (and see Sharpe, Johnson, Izzo & Murray, 2005).

The findings of the current research corroborate previous research indicating the importance of other types of administrative support provided by institutions of higher education for students with LD (Graham-Smith & Lafayette, 2004). The need for assistance in priority course scheduling is especially important, according to postgraduate students. Special needs learners seek to enroll in courses with faculty whose methods of teaching are consistent with the needs of the students (Honigsfeld & Dunn, 2006). Furthermore, those with LD with comorbid ADHD diagnoses may require their courses to be scheduled during particular times of day, namely when they are more likely to attend lectures and are better able to concentrate. Moreover, those with LD who receive additional time for completing tasks and exams often recognize the need to schedule courses sufficiently separated in time to allow breaks and to prevent courses from overlapping with one another when there is a need for extended time.
The current findings are consistent with the recommendations of Dowrick, Anderson, Heyer, and Acosta (2005) that disability services should have staff available who can provide administration, examination, and educational supports necessary for special needs learners, both undergraduate and postgraduate. Such supports might include lecture outline and reviews, audio-recorded lessons, and one-to-one teacher–student tutoring sessions. Furthermore, more frequent exams covering less material, and with the provision of more frequent breaks, could be offered as part of examination support. Administrative support might include priority course scheduling, course waivers, early registration, and modified schedules. In Saudi Arabia, as in the vast majority of countries that maintain institutions of higher education, academic support services for students with LD are incomplete and/or inconsistently offered, often without regard for the specific needs of special needs learners (Norton, 1997).

In Saudi Arabia, in particular, as revealed in the current research, there is clear need for improved awareness among faculty and administrators of the needs of students with LD, at both the undergraduate and postgraduate levels. In-service programs for administrators and faculty, as well as those with LD, can be effective in this regard (Bourke, Strehorn, Silver, 2000). Disability services can be provided through seminars that contribute to the knowledge of faculty in regards to disability laws, the needs of students with LD, and the measures of educational support that are or should be available (Vogel, Leyser, Wyland & Brulle, 1999). In addition, disability services could provide a means for special needs learners to improve their self-advocacy abilities to thereby better access measures of educational support. The provision of in-service programs for both students and faculty improve awareness of the need for educational supports (Bourke et al., 2000).

Limitations and Suggestions for Future Research

Although the current research assessed expectations, difficulties, and desires of students with LD attending Saudi Arabian undergraduate and postgraduate programs, the findings corroborate previous work with students attending universities in other countries. This work indicates that there is a profound need for educational support that is commonly disregarded or
neglected despite laws mandating appropriate support services for students with LD, in Saudi Arabia and elsewhere.

Institutions of higher education need to do more to respect the rights of students with LD, but the current work suggests that there also may be a need for these students to become better advocates for themselves. This is an area for future research. We also suspect that exploratory, qualitative, semi-structured interview studies conducted in other countries that maintain institutions of higher education would reveal parallel findings to those presented in the current research. This is another avenue for future research.

We note that a clear limitation of the current research is our relatively small sample of undergraduate and postgraduate students. Furthermore, none of our postgraduate students were majors in scientific fields; all were majors in social science fields. The findings for postgraduates may be peculiar to social science majors. We also recognize that our small samples are unlikely to be representative of the relevant populations. Finally, we recognize that the current findings may not generalize to students who would not participate in research such as this (for example, students with LD that are not comfortable or not interested in speaking with a researcher about their experiences in higher education).

**Recommendations for Practice**

The findings of the current research indicate that improving access to measures of educational support for special needs students, in the context of institutions of higher education, is critical if these students are to successfully fulfill their course requirements. This appears to be the case for undergraduate students as well as postgraduate students. And although the current research was conducted in Saudi Arabia, we suspect that these conclusions apply to students with disabilities attending institutions of higher education in other countries. Educational assistance and access to appropriate support services can be improved through collaborative participation among students with LD, faculty, disability services, and administration (Houck, Asselin, Troutman & Arrington, 1992).
References


Table 1: Demographic data for undergraduate students \((n = 16)\) and postgraduate students \((n = 6)\) students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Undergraduate</th>
<th>Postgraduates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td><strong>Academic Field</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Social Science</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1\textsuperscript{st} year</td>
<td>5</td>
<td>4 (Masters)</td>
</tr>
<tr>
<td>2\textsuperscript{nd} year</td>
<td>4</td>
<td>2 (High Diploma)</td>
</tr>
<tr>
<td>3\textsuperscript{rd} year</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>4\textsuperscript{th} year</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td><strong>Learning Disability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dyslexia</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Dysgraphia</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Dyiscalculia</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td><strong>Comorbid ADHD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

*Note. ADHD = Attention Deficit Hyperactivity Disorder*
Table 2: Educational support measures for undergraduate students ($n = 16$) and postgraduate students ($n = 6$) students

<table>
<thead>
<tr>
<th>Types of educational support</th>
<th>Undergraduate students</th>
<th>Postgraduate students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number/Percentage</td>
<td>Offered or not</td>
</tr>
<tr>
<td>Handouts</td>
<td>1 (6%)</td>
<td>No</td>
</tr>
<tr>
<td>Lecture notes</td>
<td>3 (19%)</td>
<td>Sometimes</td>
</tr>
<tr>
<td>Lecturers knowledgeable about LD</td>
<td>12 (75%)</td>
<td>No</td>
</tr>
<tr>
<td>Extended time for assignments</td>
<td>3 (19%)</td>
<td>No</td>
</tr>
<tr>
<td>Extended time for exams</td>
<td>4 (25%)</td>
<td>No</td>
</tr>
<tr>
<td>Private rooms for testing</td>
<td>8 (50%)</td>
<td>No</td>
</tr>
<tr>
<td>Review sessions</td>
<td>5 (31%)</td>
<td>No</td>
</tr>
<tr>
<td>Practice tests</td>
<td>4 (25%)</td>
<td>Sometimes</td>
</tr>
<tr>
<td>Study skills workshops</td>
<td>3 (19%)</td>
<td>Sometimes</td>
</tr>
<tr>
<td>Time management workshops</td>
<td>2 (13%)</td>
<td>Sometimes</td>
</tr>
<tr>
<td>Proofreading and editing services</td>
<td>6 (38%)</td>
<td>No</td>
</tr>
</tbody>
</table>

*Note. LD = Learning Disability*
Table 3: Administrative supports for undergraduate students ($n = 16$) and postgraduate students ($n = 6$) students

<table>
<thead>
<tr>
<th>Types of administrative supports</th>
<th>Undergraduate students</th>
<th>Postgraduate students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number/Percentage</td>
<td>Offered or not</td>
</tr>
<tr>
<td>Disability-based financial support</td>
<td>9 (56%)</td>
<td>No</td>
</tr>
<tr>
<td>English and math requirement waivers</td>
<td>10 (63%)</td>
<td>No</td>
</tr>
<tr>
<td>One-to-one assistance</td>
<td>3 (19%)</td>
<td>No</td>
</tr>
<tr>
<td>Priority in course scheduling</td>
<td>4 (25%)</td>
<td>No</td>
</tr>
</tbody>
</table>
Table 4: Pre-existing conditions for undergraduate students \((n = 16)\) and postgraduate students \((n = 6)\) students

<table>
<thead>
<tr>
<th>Types of pre-existing conditions</th>
<th>Undergraduate students</th>
<th>Postgraduate students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need to have more time to facilitate subject-matter learning</td>
<td>8 (50%)</td>
<td>2 (33%)</td>
</tr>
<tr>
<td>Inability to focus on exams and lectures while completing assignments</td>
<td>4 (25%)</td>
<td>3 (50%)</td>
</tr>
<tr>
<td>Difficulties with reading and comprehension</td>
<td>6 (38%)</td>
<td>3 (50%)</td>
</tr>
<tr>
<td>Inability to completed reading on time</td>
<td>4 (25%)</td>
<td>6 (100%)</td>
</tr>
<tr>
<td>Problems copying from the board</td>
<td>7 (44%)</td>
<td>2 (33%)</td>
</tr>
<tr>
<td>Difficulties recording notes</td>
<td>3 (19%)</td>
<td>2 (33%)</td>
</tr>
<tr>
<td>Problems adjusting to coursework demands</td>
<td>6 (38%)</td>
<td>6 (100%)</td>
</tr>
</tbody>
</table>