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Teacher Satisfaction with the Availability of Assistive Technologies for Students with Sensory Impairments in Inclusive Schools

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Abstract

This study investigates teacher satisfaction with available assistive technology (AT) for students with sensory impairments in their classrooms. The study group included teachers of deaf and hard of hearing (Dhh) and blind and visually impaired students in Najran region, a southern city in the Kingdom of Saudi Arabia. The findings suggest that teachers of students with sensory impairments feel that their schools should provide them with updated AT to better serve their students. Additionally, the results indicate that satisfaction with the available AT was not impacted by the teacher's gender. This study reinforces that more AT must be provided for students with sensory impairments. In addition to increasing the availability of AT, schools should educate teachers on techniques associated with implementing AT in their classrooms. This study confirms the importance of the technology in the educational process and the success of achieving its objectives.

Introduction

Technology can dramatically shape the quality of life because of its potential to positively impact aspects of life, such as the educational context. The integration of technology into learning has played a major role in developing teaching methods and has become an important requirement of the educational process (Babair, 2020). Additionally, technology motivates students and enhances how educational material is shared; through technology, educational material can be presented visually, auditorily, and/or through interactive content. As a result, students are more engaged with the content and can participate in cooperative learning with their classmates and teachers (Al-Ghazo, 2004; Admiraal, 2023; Atilgan, 2021).

Thus, technology is an important consideration for students with special needs, such as those with sensory impairments. Inclusion is an important component of effective special education programs, and technology allows Dhh students to be mainstreamed with their hearing peers. For example, today's advanced hearing aids help hearing-impaired students thrive in the academic environment, as they can more clearly understand teacher instructions and the oral presentation of information (Issa et al., 2017; Onivehu et al., 2017; Asola et al., 2023). Technology also gives Dhh students the opportunity to interact socially with their peers, it motivates students with special needs, such as students who are D/HH and it meets the individual needs of these students as well as

technology meet the individuals' variability needs in schools (Di Battista et al., 2020).

Blind and visually impaired students also benefit from technology in the educational context (Starks & Reich, 2023). Technological advancements allow blind and visually impaired students to interact in the general education environment by providing special techniques for listening, speaking (reading), and other communicative skills (Al-Bedouin, 2020; Baglama, 2023; Beck-Winchatz, 2008). Regardless of the type of impairment present for the student, the teacher is paramount to success in the educational process. He is required to understand the benefit and capabilities of available assistive technology (AT) and choose which is most appropriate for each student in each educational scenario.

Review of Literature

The inclusion of special needs students requires adapting and preparing the environment to maximize the student's benefits from the curriculum and his presence in the public education environment. Inclusion can be either complete, as often with blind students, or partial, as is common with students who are Dhh (Salami, 2014; Issa & Al-Shahrani, 2017). One of the most important requirements for successful inclusion is the availability of AT that enable Dhh students to thrive in the general education environment.

Several existing studies explore the use of AT in the education of the Dhh. For example, Issa and Al-Shahrani (2017) examined educators' perspectives on the types of AT necessary to promote inclusion for Dhh students. Additionally, their study examines the use of techniques for implementing that technology, finding no difference between teachers of Dhh students and teachers of hard-of-hearing students regarding their preferences for AT implementation techniques. However, the findings do indicate that educators need more instruction on applying both simple and advanced techniques for AT implementation, suggesting that it is imperative to offer auditory training techniques. The study demonstrates that educators' experience and specialization is influential in their choice of techniques when working with Dhh students. AT also helps eliminate noise in the classroom, and helps students to minimize all communication issues which increases students' interaction during classroom discussion and maintains the topic (Rekkedal, 2012, Campado, et al., 2023). Cochlear implant, for example, helps Dhh children develop phonological awareness and sound awareness in the environment (Leclère et al., 2023).

Al-Murathala and Al-Zureikat (2022) studied the impact of AT on enhancing communication and academic skills. From their sample of Dhh students as well as their teachers, the results reveal a higher degree of AT use with hearing-impaired students than with Dhh students for activities related to communication skills. However, in terms of implementing AT to promote academic skills, no differences exist between the Dhh students. Another key takeaway from the study is that its findings urge the importance of using AT appropriately to avoid the negative aspects of their use.

There are other studies conducted that aimed at identifying the differences between programs for the Dhh. However, the current study is not only limited to finding the difference between the degree of use of Dhh teachers. Also, it explores the extent of satisfaction of teachers of the Dhh as well as the blind and visually impaired with

the efficiency of these techniques and the extent of the program's capabilities in developing the abilities of students with sensory disabilities.

Current research also focuses on how AT can be used to better serve students with special needs. For example, AT has been employed in the treatment of children with speech disorders such as stuttering (Eid, 2020). Two recent studies use VR technologies to create computer-generated environments to help children develop their auditory and visual skills by receiving tactile feedback (Bateman et al., 2017; Bryant et al., 2020). Al-Maqdami (2018) investigates obstacles that discourage teachers of the Dhh from using AT. The results demonstrate that a lack of understanding of implementation techniques is the most common roadblock. Another identified factor is the type of program; for example, individuals with hearing loss or individuals who are hard of hearing use a different AT than individuals who are Dhh. Also, the AT can be used based on the individual's needs (Duhaney & Duhaney, 2000). Further, the teacher's own depth of experience and education significantly impacts the extent of AT use.

Other studies explored AT techniques in teaching certain subjects. For example, Abu Zaytoun (2007) explored the extent of AT use when teaching reading and writing to the blind and visually impaired in Jordan. The results conclude that cassette tapes, recorders, and talking devices were the most commonly used; however, the study also indicates that the high cost and scarcity of the devices were major obstacles for teachers in obtaining them.

Although literature about AT and sensory-impaired students is available, this study addresses various gaps in current studies. Previous studies were limited to determining the differences in the use of assistive technologies between teachers of the Dhh and did not consider the importance of teachers' satisfaction with these technologies and their availability in their programs. To bridge that gap, the current study examines teacher satisfaction of teachers with the AT available to them while some studies have examined teachers' perceptions of support service availability in programs for blind and visually impaired students (Al Fahad, 2018). This study extends that concept by including teachers of Dhh students in addition to blind and visually impaired students. Another novel observation of this study is that it explores teacher satisfaction with not only available AT but also their understanding of implementation techniques.

Research Questions

To explore the aforementioned concerns, the study addresses the following research questions.

- What is the degree of satisfaction of male and female teachers of deaf and hard-of-hearing (Dhh) students with AT availability in integration schools in Najran?
- What is the degree of satisfaction of male and female teachers of blind and visually impaired students with AT availability in integration schools in Najran?
- Are there statistically significant differences at the level of (0.05) for the degree of satisfaction of male and female teachers of students with sensory impairments regarding AT availability in the inclusive schools in Najran according to the gender variable?
- Are there statistically significant differences at the level of (0.05) for the degree of satisfaction of male

and female teachers of students with sensory impairments regarding AT availability in the inclusive schools in Najran according to the specialization variable?

Research Objectives

To explore the research questions, the study attempts to identify the following research objectives.

- To identify the degree of satisfaction of male and female teachers of deaf and hard-of-hearing (Dhh) students with AT availability in integration schools in Najran.
- To identify the degree of satisfaction of male and female teachers of blind and visually impaired students with AT availability in integration schools in Najran.
- To reveal any statistically significant differences at the level of (0.05) for the degree of satisfaction of male and female teachers of students with sensory impairments regarding AT availability in the inclusive schools in Najran according to the gender variable.
- To reveal any statistically significant differences at the level of (0.05) for the degree of satisfaction of male and female teachers of students with sensory impairments regarding AT availability in the inclusive schools in Najran according to the specialization variable.

Methods

The descriptive approach was used in the current study. Two surveys were administered to male and female teachers of students with sensory impairments regarding AT availability in the inclusive schools in Najran.

Study Group

The study population consists of all 60 male and female teachers of students with sensory impairments in the inclusive schools in Najran. The study sample consists of both an exploratory and a main sample. The exploratory sample consisted of 20 male and female teachers from outside the study sample to verify the validity of the consistency and reliability of the study tool. The main sample consisted of 40 male and female teachers, 67% of the study population, distributed with 20 male and 20 female teachers, using the simple random sampling method. An electronic link was created for the study tool and circulated to the study community. After several weeks had passed, the number of responses reached 40 male and female teachers, with a percentage of 67% of the study community, which is representative of the community.

Instruments

To measure the satisfaction of male and female teachers of Dhh students regarding AT availability in the inclusive schools in Najran, a survey was conducted. It included 20 items which the teachers were asked to respond to according to a three-point Likert scale. Second, the satisfaction of male and female teachers of blind and visually impaired students regarding AT availability in the integration schools in Najran, a 20-item survey was administered, with responses chosen from a three-point Likert scale.

Validity and Reliability

To ensure the validity of our results, we utilized external experts to test for face validity and made efforts to ensure internal validity. To test for face validity, the two questionnaires were presented in their initial version to 10 faculty members considered experts in the field of deaf and blind education (Five teachers and two professors in Deaf education and Blind Education). This panel expressed their opinions on the clarity of the phrases and their suitability for the study in writing by developing amendments and proposed modifications.

Based on the modifications and suggestions made by the experts, the researchers made the necessary adjustments to reach the final versions of the tools. The researchers administered the two tools of the study to the study sample of 20 male and female teachers in the southern region of the Kingdom of Saudi Arabia. To ensure internal consistency, the Pearson correlation coefficient was calculated between the satisfaction of male and female teachers of students with sensory impairments with AT availability in the inclusive schools in Najran and the total score of the questionnaire. Tables 1 and 2 show the Pearson correlation coefficients.

Table 1. Pearson Correlation Coefficients between the Satisfaction of Male and Female Teachers of Deaf and Hard-of-hearing(Dhh) Students regarding AT Availability in the Inclusive Schools in Najran and the Total Score

N.	AT Devices	Pearson correlation coefficient	Sig.
1	Electronic whiteboard	.872**	.000
2	Audio and optical counter	.882**	.000
3	Paper formation	.700**	.001
4	Word analysis and composition panel	.766**	.000
5	Disassembly and installation of games	.468*	.038
6	Sorting panels	.857**	.000
7	Data show	.808**	.000
8	Video	.866**	.000
9	Computer	.763**	.000
10	Computer programs for training attention	.851**	.000
11	Software for the development of auditory skills	.719**	.000
12	Earbuds and headphones	.643**	.002
13	Hearing aids	.569**	.009
14	Cochlear implant	.715**	.000
15	FM systems	.766**	.000
16	Textphone system	.802**	.000
17	Sign language translation software	.706**	.001
18	Voice typing software	.649**	.002
19	Video phones	.812**	.000
20	Sign language translated phones	.635**	.003

Note: * indicates sig. at 0.05 and **indicates sig. at 0.01.

Table 1 shows that the Pearson correlation coefficients between items of the extent of satisfaction of male and female teachers of students regarding AT availability in the integration schools in Najran and the total score were statistically significant at the levels of 0.01 and 0.05.

Table 2. Pearson Correlation Coefficients between the Satisfaction of Male and Female Teachers of Blind and Visually Impaired Students regarding AT Availability in the Inclusive Schools in Najran and the Total Score

N.	AT Devices	Pearson correlation coefficient	Sig.
1	Textbooks adapted to Braille	.798**	.000
2	Ruler and Braille pen	.899**	.000
3	Braille pen	.615**	.004
4	Braille board	.802**	.000
5	Braille typewriter (Perkins)	.460*	.041
6	Abacus or IBCAS	.878**	.000
7	Teller plate	.753**	.000
8	Talking calculator	.885**	.000
9	Geometric toolkit	.761**	.000
10	Long stick	.855**	.000
11	Laser stick	.700**	.001
12	Voice guide	.735**	.000
13	Compass	.468*	.038
14	Braille technology	.747**	.000
15	Computer screen readers	.788**	.000
16	Electronic scanners	.842**	.000
17	Voice recording devices	.745**	.000
18	Zoom cameras	.707**	.000
19	Traditional font size enlargement methods	.855**	.000
20	Talking cellular telephone	.729**	.000

Note: * indicates sig. at 0.05 and **indicates sig. at 0.01.

Pearson's correlation coefficients between the items with the total score between 0.468* - 0.882**. This mean that the results show that Pearson correlation coefficients between teacher satisfaction, which indicates that teachers of Dhh from both genders are not satisfied with the AT and the total score range between 0.468* - 0.882**.

Table 2 shows the Pearson correlation coefficients between the extent of satisfaction of male and female teachers of sensory impaired students regarding AT availability in the inclusive schools in Najran and the total score were statistically significant at the levels of 0.01 and 0.05. Pearson's correlation coefficients between the items with the total degree of the domain to which they belong ranged between 0.468* - 0.882**. This means that the results show that Pearson correlation coefficients between teacher satisfaction, which indicates that male and female teachers of blind and visually impaired students are not satisfied with the AT and the total score range between 0.468* - 0.882**. To verify the reliability of the study tools, the researchers applied Cronbach's alpha equation

on the total score of the questionnaires. Table 3 shows reliability coefficients.

Table 3. Cronbach's Alpha Reliability Coefficients for the Study Tools on the Total Score

No.	Tool	No. of Items	Reliability Coefficient
1	The satisfaction of male and female teachers of deaf and hard-of-hearing students regarding AT availability in the inclusive schools in Najran	20	0.93
2	The satisfaction of male and female teachers of blind and visually impaired students regarding AT availability in the integration schools in Najran	20	0.95

Table 3 shows that the overall reliability coefficient for the satisfaction of male and female teachers of Dhh students regarding the availability of assistive technologies in the inclusive schools in Najran was 0.93. Also, the coefficient of total stability of the satisfaction of male and female teachers of blind and visually impaired students was 0.95. They are high-reliability coefficients that are suitable for the study. These results also indicate that the study tools are reliable.

Statistical Processing Methods

The statistical software (SPSS), version 23 was utilized to analyze in the results of the study and obtain answers to its research questions. The following statistical methods were used: Pearson correlation coefficient to check the validity of consistency; Cronbach Alpha to verify the reliability of the study tools; and means, standard deviations, and the rank for answering RQ1 and RQ2. The following was adopted to determine the degree to which the items of the study tools reliably determined the degree of approval based on the range equation. Table 4 shows the equation.

Table 4. Criteria for Interpreting the Values of the Mean for the Levels of Speaking Skill

Level of skill	Low	Medium	High
Mean	> 1.00-1.67	> 1.67-2.34	> 2.34-3.00

Further, a t-test was administered to show the significance of the differences between the means of the degree of satisfaction of male and female teachers of students with sensory impairments regarding AT availability in the inclusive schools in Najran, according to the gender variable to answer RQ3 and RQ4.

Results

Results of the First Question

To address RQ1, the researchers calculated the means and standard deviations of the responses of the study sample concerning the degree of satisfaction with AT availability for Dhh students in inclusive schools in Najran. Table

5 shows the results. Table 5 indicates that, overall, both male and female teachers experience a low degree of satisfaction with the AT available in the inclusive schools in Najran. When evaluating the available AT devices, the degree of satisfaction ranged from 1.25-1.50. The mean was 1.32, and the standard deviation was 0.285.

Table 5. Means and Standard Deviations of the Degree of Satisfaction of Male and Female Teachers of Deaf and Hard-of-hearing (Dhh) Students regarding AT Availability in the Inclusive Schools in Najran

No.	AT Devices	Means	Standard deviations	Degree
1	Electronic whiteboard	1.30	.470	Low
2	Audio and optical counter	1.25	.444	Low
3	Paper formation	1.25	.550	Low
4	Word analysis and composition panel	1.35	.489	Low
5	Disassembly and installation games	1.25	.444	Low
6	Sorting panels	1.35	.587	Low
7	Data show	1.35	.489	Low
8	Video	1.25	.444	Low
9	Computer	1.40	.503	Low
10	Computer programs for training attention	1.35	.587	Low
11	Software for the development of auditory skills	1.35	.489	Low
12	Earbuds and headphones	1.25	.444	Low
13	Hearing aids	1.25	.444	Low
14	Cochlear implant	1.30	.470	Low
15	FM systems	1.30	.470	Low
16	Text phone system	1.30	.470	Low
17	Sign language translation software	1.25	.550	Low
18	Voice typing software	1.50	.513	Low
19	Video phones	1.40	.598	Low
20	Sign language translated phones	1.45	.510	Low
	The total degree of satisfaction of male and female teachers of deaf and hard-of-hearing (Dhh) regarding AT availability in the inclusive schools in Najran	1.32	.285	Low

Results of the Second Question

To explore RQ2, the researchers calculated the means and standard deviations of the responses of the study sample to determine the degree of satisfaction with the available AT for blind and visually impaired students in the inclusive schools in Najran. Table 6 displays the results. The results of Table 6 indicate that, overall, both male and female teachers of blind and visually impaired students experience a low degree of satisfaction with AT availability in the inclusive schools in Najran. Breaking down the satisfaction level by individual device, the

means for the items ranged between 1.20-1.65. The mean was 1.38, and the standard deviation was 0.292.

Table 6. Means and Standard Deviations of the Degree of Satisfaction of Male and Female Teachers of Students with Sensory Impairments regarding AT Availability in the Inclusive Schools in Najran

No.	AT Devices	Means	Standard deviations	Degree
1	Textbooks are adapted to Braille	1.65	.671	Low
2	Ruler and Braille pen	1.20	.410	Low
3	Braille pen	1.30	.571	Low
4	Braille board	1.40	.503	Low
5	Braille typewriter (Perkins)	1.30	.470	Low
6	Abacus or IBCAS	1.40	.598	Low
7	Teller plate	1.40	.503	Low
8	Talking calculator	1.30	.470	Low
9	Geometric toolkit	1.45	.510	Low
10	Long stick	1.40	.598	Low
11	Laser stick	1.40	.503	Low
12	Voice guide	1.30	.470	Low
13	Compass	1.30	.470	Low
14	Braille technology	1.35	.489	Low
15	Computer screen readers	1.35	.489	Low
16	Electronic scanners	1.35	.489	Low
17	Voice recording devices	1.30	.571	Low
18	Zoom cameras	1.50	.513	Low
19	Traditional font size enlargement methods	1.45	.605	Low
20	Talking cellular telephone	1.50	.513	Low
	The total degree of satisfaction of male and female teachers of students with sensory impairments (blind and visually impaired) about the availability of assistive technologies in the inclusive schools in Najran	1.38	.292	Low

Results of the Third Question

To address RQ3, concerning whether there were statistically significant differences in satisfaction level between male and female teachers, the researchers used the Kolmogorov-Smirnov and Shapiro-Wilk tests to verify normality. Table 7 shows the results. Table 7 demonstrates that the degree of satisfaction of male and female teachers of sensory impaired students with sensory impairments with AT availability in the inclusive schools in Najran was distributed normally according to the gender variable. A t test was employed to compare the means of the two groups. Table 8 shows the results.

Table 7. Results of the Kolmogorov-Smirnov and Shapiro-Wilk Tests to verify the Normality of Data Distribution according to the Gender Variable

	Gender	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
The satisfaction of male and female teachers of deaf and hard-of-hearing (Dhh) students with AT availability in the inclusive schools in Najran	Male	.167	10	.200*	.894	10	.188
	Female	.181	10	.200*	.915	10	.315
The satisfaction of male and female teachers of blind and visually impaired students with AT availability in the inclusive schools in Najran	Male	.156	10	.200*	.929	10	.434
	Female	.180	10	.200*	.918	10	.337

Table 8 illustrates no statistically significant differences at the level of 0.05 exist between the means of the degree of satisfaction of male and female teachers of sensory impaired students regarding AT availability in the inclusive schools in Najran.

Table 8. Results of the t Test to compare the Means between Male and Female Teachers regarding their Degree of Satisfaction with AT Availability in Integration Schools in Najran

	Gender	No.	Means	Standard deviations	t	df	Sig.
The satisfaction of male and female teachers of sensory impaired students with AT availability in the inclusive schools in Najran	Male	10	1.26	.229	1.063	18	.302
	Female	10	1.39	.330			
The satisfaction of male and female teachers of sensory impaired students with AT availability in the inclusive schools in Najran	Male	10	1.28	.225	1.686	18	.109
	Female	10	1.49	.323			

Results of the Fourth Question

RQ4 asks if there are statistically significant differences in the teacher degree of satisfaction with available AT when teachers are categorized as either special education or general education teacher. The researchers utilized the Kolmogorov-Smirnov and Shapiro-Wilk tests to verify normality according to the specialization variable. Table 9 depicts the results.

Table 9. Results from the Kolmogorov-Smirnov and Shapiro-Wilk Tests to verify the Normality of Data Distribution according to the Specialization Variable

	Specialization	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
The satisfaction of male and female teachers of sensory impaired students with AT availability in the inclusive schools in Najran	Special education teacher	.194	12	.200*	.871	12	.068
	General education teacher	.143	8	.200*	.950	8	.710
The satisfaction of male and female teachers of students with sensory impairments (blind and visually impaired) about the availability of assistive technologies in the inclusive schools in Najran	Special education teacher	.154	12	.200*	.948	12	.606
	General education teacher	.155	8	.200*	.934	8	.556

The findings of Table 9 demonstrate that the degree of satisfaction of male and female teachers of sensory impaired students with AT availability of assistive technologies in the inclusive schools in Najran is distributed normally according to the variable of specialization. A t test was used to compare the means of the two groups. Table 10 shows the results.

Table 10. Results of the t Test to compare the Means between Special Education and General Education regarding their Degree of Satisfaction with AT Availability in the Inclusive Schools in Najran

	Specialization	No.	Means	Standard deviations	t	df	Sig.
The satisfaction of male and female teachers of deaf and hard-of-hearing (Dhh) students with AT availability in the inclusive schools in Najran	Special education teacher	12	1.26	.238	1.252	18	.227
	General education teacher	8	1.42	.337			
The satisfaction of male and female teachers of blind and visually impaired students with AT availability in the inclusive schools in Najran	Special education teacher	12	1.35	.279	.553	18	.587
	General education teacher	8	1.43	.324			

Table 10 expresses no statistically significant differences at the level of 0.05 exist between the means of the degree of satisfaction of special education and general education teachers of students with sensory impairments regarding AT availability in the inclusive schools in Najran.

Discussion and Conclusion

The current study explores the extent of teacher satisfaction with available AT for their sensory impaired students in the Najran region's inclusive schools. Unlike previous studies that are limited to programs for the Dhh, such as Al-Maqdami (2018), this study includes teachers of the blind and visually impaired; additionally, it examines teacher satisfaction applying a gender variable. The results indicate that both male and female teachers are unsatisfied with the availability of the necessary technologies for the Dhh students in their programs.

The researchers attribute this low degree of satisfaction to the fact that most resources in inclusive schools are invested into providing the necessary tools and capabilities for non-impaired students to succeed. Therefore, less resources are available to provide Dhh students with AT to support them in the learning process. The high expenses associated with and the scarcity of these devices and further lead to their insufficient availability. This result is consistent with that of Issa and Al-Shahrani's (2017) study, which indicates a lack of advanced and simple technologies necessary to integrate Dhh students into the mainstream classroom. These results also agree with those of Abu Zaytoun (2007), who concludes that the high cost of AT devices is one of the greatest obstacles to obtaining and providing them to students. Furthermore, the results are in line with those of Issa and Al-Shahrani (2017) and Al Fahad (2018), who find a lack of availability and use of computer software, simple technology, and advanced audio technology for the Dhh students in mainstream schools. The results suggest that teachers are aware that assistive services exist, but they are not available within their own school environments.

As aforementioned, this current study also explores these concepts in the context of blind and visually impaired students. The results of RQ2 indicate that teachers of blind and visually impaired students experience a low degree of satisfaction with AT availability of assistive technologies in the inclusive schools in Najran. As in the case of Dhh students, the researchers attribute this result to the fact that the inclusive schools are primarily interested in the majority, who are non-impaired students, and invest in modern technologies to support their academic success. In contrast, less resources are invested in sensory impaired students. As previously discussed, the scarcity and high costs associated with AT devices for sensory impaired students further discourage their purchase (Abu Zaytoun, 2007).

The results of the study show no statistically significant differences at the level of (0.05) between the means of male and female teachers' degree of satisfaction with the availability of AT for their sensory impaired students in the inclusive schools in Najran. Further, the teacher's experience and academic degree obtained significantly impacts the use of AT. Issa and Al-Shahrani (2017) highlight that teachers of the Dhh advocate for more inclusion by providing and using AT such as display devices, computer software, and advanced audio technology as well as offering training opportunities for educators to learn to use AT. They argue that this is not only in the best interest of the impaired students, but it is also in the best interest of the school system. Tosan's (2017) study specifically focuses on the satisfaction of female students with visual impairments at the College of Education at Qassim University. His findings conclude that the university suffers from a lack of support services related to information technology, such as computers for students with visual impairments.

The results of the current study yield no statistically significant differences at the level of 0.05 between the means of the degree of satisfaction of special education and general education teachers of sensory impaired students regarding AT availability in the inclusive schools in Najran. In other words, all inclusive Najran schools, regardless of the subject being taught and whether in a special education or general education classroom, fail to provide adequate AT to their sensory impaired students. Abu Zaytoun's (2007) results reiterate that AT availability is an issue for all subjects for blind and visually impaired students. They specifically found that cassette tapes, recorders, and talking devices were the most widely used, but that the high cost of devices and their scarcity were among the main obstacles to obtaining them. On the other hand, representing the point of view of students, the study of Al-Hattab (2016) found statistically significant differences between the average degrees of motivation of students who use technology and non-users of technology in favor of the former. This result confirms the importance of these technological media in the educational process and the success of achieving its objectives.

Limitations

The first limitation of this study is that this study sample was drawn from one city in Saudi. Additionally, the population of the schools was small compared to other schools of students with sensory needs. Further, participants could respond to the questions without having full knowledge of the technology available to them. In addition, this study did not ascertain why teachers are not happy with the technology in their school.

Recommendation for Future Study

Several gaps in this study can be addressed by future research. First, a better understanding of teachers' perceptions of technology used in their schools could be gathered by including more extensive sample size. Additionally, future studies can provide more insight if they use a mixed method design to collect both quantitative and qualitative information regarding teachers' perceptions of using assistive technology in their schools. This study reinforces that more AT must be provided for students with sensory impairments. Another consideration is that in addition to increasing the availability of AT, schools should educate teachers on techniques associated with implementing AT in their classrooms. Al-Maqdami's (2018) study implies that teachers of the Dhh were more likely to implement available AT if they were shown the proper techniques. As indicated that some ATs were the most widely used, but they were very expensive having them. On the other hand, representing the point of view of students, Al-Hattab (2016) found statistically significant differences between the average degrees of motivation of students who use technology and non-users of technology in favor of the former. This result confirms the importance of these technological media in the educational process and the success of achieving its objectives.

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