EXPLORING FORMER & MODERN VIEWS: A CATCH-ALL TO ASSISTIVE TECHNOLOGY APPLICATIONS

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Abstract: *In life, everyone faces personalized conditions such as ageing, disease, and impairments in hearing, vision, or mobility. In addition, some individuals are born with disabilities that can limit their participation in various areas of life, including work, education, and daily activities. Assistive technology (AT) is a field that aims to provide tools and resources to facilitate the needs of individuals with disabilities or impairments. This article reviews the latest advances in AT, focusing on using Internet of Things (IoT) technologies to provide innovative solutions. The article discusses the deployment of assistive devices in various areas, such as building access, information access, and work and education participation. The goal of this research is to highlight the potential of AT to improve the lives of individuals with disabilities and to provide an overview of the current state of the field. The article also discusses the use of IoT-based solutions in assistive technology and identifies promising areas for future development and deployment. By providing a comprehensive review of the latest advancements in AT, this research aims to contribute to the ongoing efforts to enhance functional capacities and improve the quality of life for individuals with disabilities.*

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Introduction

One of the newer models, the Human Activity Assistance Technology (HAAT), shows that when human enactment encompasses the practice of assistive manoeuvres, the performance depends on some relevant factors related to people, activities, and assistive technology products. In recent centuries, the mandate for the growth of senior medical services that utilize new technologies and support independent living has amplified. Some activities focus on observing and evolving internal autonomy, exclusively for the old and people with infirmities. Many solutions are based on specific technologies such as WLAN connection or Internet of Things (IoT) systems, especially for a humanoid identity for an extensive collection of interior amenities (Baucas et al., 2021). However, complete independence in performing daily tasks and activities is a challenge for people with disabilities, including those with visual impairments. Several studies open up new opportunities by proposing tools, methods, and assistive technologies (AT) to overcome many obstacles. Web and mobile applications, such as home automation systems, have been proposed to make everyday activities more accessible and convenient. However, cooperating with network grids and portable applications is often problematic for those who cannot see or need good digital skills. Furthermore, today's resolutions are often multifarious and laborious

due to the numerous daily movements or steps required to perform repetitive tasks. To this end, Leporini et al. (2019) proposed a sound-based electronic device for integration into lighting systems or lamps (including smart bulbs) for lighting tests.

Similarly, web access for users with poor eyesight is a long-term problem. Although this problem is usually managed by web/construction design, it is still being determined whether the problem is in reading pages or in the systems used to read pages. Petrie et al. (2006), including an access test for 100 websites with 51 disabled users, closed that blind users have many problems using websites, as well as other disabled users. Real access requires minimal scanning time to find specific information. Continuous reading of web pages does not provide this type of access. For example, users have to navigate through many menus and headings before accessing the actual textual content of the page. However, if users can navigate a web page based on semantic blocks, they can get to the page's actual content faster and skip all menus and other sections of the page. (de Joode et al., 2010). Autism, also known as Autism Spectrum Disorder (ASD), is an unprecedented disease of the brain, which relates to a wide range of complex nerve disorders characterised by difficulty, social skills, recurring behaviours, and interests in a very concentrated sensory manner. Autism can provide challenges for people affected by the work environment and everyday life. However, environmental settings still gradually modify the barrier to people suffering from this disease. People with ASD have limited skills and cannot isolate their five senses, which are often excessively used in the case of music, touch, flavours, aroma, light, colours or temperatures. In this perspective, the people infected with unusual challenges can be subject to most people, especially in crowded environments that are not associated with premises. Developing technologies that involve autistic user recognition can be challenging, especially given multiple collaborations' unreliable capabilities and impact. Wali and Sanfilippo (2019) provide details on the latest advances in technology services for people with ASD in the workplace in their daily lives, including a variety of different sensors. To support such reflection, one presented relevant skills and techniques emphasising therapeutic and psychological aspects (Ivanoff et al., 2006).

The humanitarian coordination system progressively recognises and addresses the needs of persons with disabilities at risk, promoted by the 2006 United Nations Convention on the Rights of Persons with Disabilities (CRPD). The proportion of older people in the rest of the population has increased significantly (United Nations, 2014). Since dementia is an ageing-related neurodegenerative disease, the number of dementia patients worldwide is expected to increase from 24.3 million in 2006 to 81.1 million in 2040. The penalties of the growing need to care for the projected number of people with dementia are of concern. One tactic for this new crisis is to develop assistive technologies that can compensate for the physical and cognitive deficits of the elderly with dementia (Fleming & Sum, 2014; Zwijsen et al., 2011). Technology has been applied to every aspect of humanitarian efforts, including special training. The use of support technology in a comprehensive educational system proved helpful as it provides improved methods and opportunities for doing things. In the past ten years, a number of studies have shown the effectiveness of supporting people with learning problems. Assistant academic technologies are often used as an extensive synonym for assistive technology, but another word confirms the role of integrated support technology and integration in forming disabled students.

Along with the computer, the required initiative programs are storage, audio & video systems, and user access, which can transfer and address information. As Rabonye (2020) mentioned, it is similar to IT but mainly focuses on communications tools, comprising the Internet, wireless networks, portable headsets, and added statements. Therefore, ICT can be done to learn the academic performance of students with disabilities because it is easy to reduce notes in chapters and other scientific actions such as research and customisation. However, using assistive technology to educate students with learning disabilities allows them to compete with other students in terms of academic performance (Mulfari et al., 2017; Ryan et al., 2004; Sze, 2009).

The author believes that the effectiveness of the evidence supporting the use of the technology should be reviewed to determine its reliability and therefore attempt to provide an assessment of the strength of the data analysis. The critical question in this regard is whether

people with cognitive disorders can use these tools in their daily life and whether it is effective in strengthening independent performance because environmental changes may influence cognitive disorders and the effect of training is unknown for this group. This study explores how technology can help people with several disabilities/handicaps function and improve their overall health by reducing behavioural problems and improving pulmonary mood. This evaluation aims to measure support for using technology as an intervention to improve independence, safety, communication, and health.

1. Literature Review

Each of us faces terms that have personalized conditions, ageing, diseases, events and disorders. Same as hearings, vision, management, motility, work and education participation. Some of us are born with disabilities or diseases to overcome the boundaries of our lives. As a result, as a way that the potential is affecting everyone, or as a personal or indirect user, one can understand the value and importance of performance issues. For example, a disabled person cannot complete important agreements they face. However, anyone who has selected the appropriate assistive technology device, purchased the product and received training and support for its use can use AT to perform the same tasks previously difficult or impossible. With the right equipment and technical support services, people can do their jobs more effectively, efficiently and independently without equipment (Sze, 2009; Young & Mihailidis, 2010).

Assistive technology is often a unique product designed for special educational requirements and disabled people. The review offers extensive snapshots of information to understand the ability of educational technology. One can maximize its educational and practical social and economic benefits by maximizing the unique educational requirements of students. If people seem to have appropriate AT, one can perform or execute tasks that cannot be gradually filled in or executed. As part of the technology used in academic institutions (such as educational technologies), the design and marketing of technical support and technology are used in the company. The purpose of the literature was to collect evidence from university databases and grey literature (not indexed magazines, conference, and technical report). The purpose is to comprehend the state of the art (as in the literature for doctors) and the situation of science (as in peer investigation research literature) regarding AT applications, results, and student advantages.

Disorders come in many forms and intensities. Understanding where, when, how, and for whom assistive technologies may work requires understanding both the depth of research in a particular disability category and the breadth of technologies that support crucial outcomes. This brief overview provides evidence of AT applications for all special needs and disabilities at all levels of the education system. Most research-supported technical interventions focus on speech, language, and communication disorders and the use of communication systems known as augmented and alternative communication devices (AACs). This amount of research data provides a way for people to communicate with each other. The earlier it is, the better the outcome for independence, educational performance, and quality of life (Berger & Maly, 2019; Jafar & Nagesh, 2021; Manship et al., 2019). Most agree that many people have much capacity to increase the power of disabled people. AT can be aware that it can be helpful to reach the public process, which can help the user reach public courses. Users can also support doing anything or learning new content. Nevertheless, many obstacles have success in the daily life of people. Despite the growing interest and awareness of the potential of assistive technologies in helping people with disabilities access traditional programming and develop transitional skills, as evidenced by federal law, many obstacles remain.

Not all groups have exact boundaries because the economic resources are the same. Second, the high cost of access to equipment and types of services, lack of information about lack of funding, and lack of information about families with disabilities are often significant barriers (Hollier & Abou-Zahra, 2018). Third, more technical expertise is needed. For example, there are problems with programs, program meetings, and many academic programs for specially-trained teachers. Fourth, the need for regular support can be a big problem. Fifth, quality issues are often a significant problem, and people with disabilities do not use assistive technology. Finally, although people with disabilities and their families can use AT, most purchases are discarded. The main reasons

for leaving are: (1) a lack of consideration for the essentials of folks with infirmities and/or their families; (2) a family member or therapist chose auxiliary technology for the individual; (3) complex device design elements related to setup, programming, and portability; (4) lack of funding for the device; (5) unreliable technology; (6) lack of technical support; and (7) equipment that arouses adverse interest in the individual.

At present, students with disabilities and handicaps are represented as students with special requirements and handicaps nature everywhere in society. The global utility offers access to instruments on every smartphone, tablet PC, laptop, and desktop computer. Parents and teachers are recommended to explore accessibility features as the first important step for students exploring access to their devices. To effectively coordinate the capacities of secondary technologies, it will be necessary for students, parents, teachers, officials, policymakers, developers, and service providers to scale the number of students taking advantage of effective assistive technology (Mulfari et al., 2017). Technology services include products and services that enhance the functioning of children with disabilities. Many "high" and "low" skills help people with disabilities use their energy to avoid or pay for their disability. Therefore, appropriate assistive devices can be powerful tools to promote independence and improve children's participation. It can help children move, communicate, see, hear, and participate in learning and play. Assistive technology enables children to access and exercise their rights and engage with what is important to them. Services can improve the quality of life of families and children. Technology can be used to help people with various disabilities, including cognitive and physical disabilities. One is examining the use of assistive technologies to improve children's learning. On the other hand, this knowledge allows children to deal with their disabilities.

In general, assistive technologies complement students' abilities and allow students to take compensatory lessons to reduce defects, such as software designed to improve poor speech skills (Wali & Sanfilippo, 2019; Whittaker et al., 2021). Assistive technology is frequently endorsed as a resource for maintaining independence and the value of lifespan in grown-up adults because it allows people to continue living in their own homes. The ethical debates surrounding using AT in-home care for the elderly do not seem to be of paramount importance. A little discussion relies heavily on focused concepts like autonomy and bullying. This complicates the discussion rather than clarifies it, as it contains many vague concepts and assumptions. Most moral objections are based on the idea that humans are independent and must make their own decisions. It is questionable whether this view is accurate and meaningful in discussing the use of AT to care for the (weak) elderly. Other ethical approaches that people consider social and reciprocal are more practical and may shed light on the ethical aspects of using AT (Rabonye, 2020).

2. Assistive Aid in Instructional Technology

Many technologies manufactured by the user are helpful for those requiring specific requirements and for a wide range of people. Therefore, one encourages the teacher to find chances to apply innovative technologies as a part of academic activities. Of course, many comprehensive classes also use academic and auxiliary technologies due to their affluence, but educational technology is inherently more common.

Unlike assistive technologies tailored to individual children's strengths and needs, educational skills support curriculum teaching and facilitate learning. The line between training and support has begun to blur in the current era of available technological equipment. Some technologies, such as digital textbooks, can be educational and supportive. High-tech assistive technology tools are increasingly common in classrooms, and all students have access to their expertise (Manship et al., 2019; Wali & Sanfilippo, 2019). This includes a wide range of educational technologies with similar features as auxiliary technology. For example, the sound detection program is beneficial for students in reading and writing and is regularly known as a technique for disabled students (Alper and Raharinirina, 2006). Conversely, this technology is everywhere on current smartphones and other portable devices used by people without daily disabilities. Ideological programs, android devices, and word processing are equipped with many features of auxiliary technology, such as voice recognition, prediction, spelling, and automated modification. As a result, most technologies that help and provide information are scattered (Rabonye, 2020).

Schools have made it possible to access support technology through generally accessible devices and programs. Personal digital devices are popular and cost-effective and available for students. They can offer a comprehensive way to integrate support technology into the semester. Because today's students increase the use of technology within the school, teachers should use the available techniques and must find a way to integrate them into their instructions. The author provides a "reform technology" to provide a generally available device for backing students to upkeep learning, even if these devices are unintentional as aid. The revision of joint technology to assist school technology is provided to reduce the challenges related to their use. The primary research showed that nearly a third of donor technological devices had been abandoned. Students can give up their technologies to look different from their counterparts and destroy them concerning the device. The abandonment of students from technological assistance can be reduced if technologies are desirable and used. As a result, business technologies, such as smartphones, tablets, mp3 games, and engaging educational toys equipped with internal access features, can decrease technology adoption. These devices help to overcome mass production, reduce costs, and have high professional budgets (Bowes et al., 2013; Leporini et al., 2020).

3. Assistive Technology & Internet of Things

The Internet of Things (IoT) refers to "a combination of computing devices contained in modern electronic devices that enable the transmission and reception of information within themselves and with the user". IoT often discusses interference with its technology. This means adding physical and virtual devices based on existing data to support high-end services for upgrading existing ones and developing communication technology. Although the importance of the technical foundations does not reject the importance of society, the vision of society is always connected and less affected by the technical effects, and it raises it to affect our daily needs of Comics Point since the 1930s (Bandyopadhyay & Sen, 2011; Bowes et al., 2013).

With the advent of technology, IoT has found applications in smart cities, intelligent systems, and even assistive technology. Perspectives of the IoT in assistive technology are bright, and different applications have been developed and implemented to assist the ones in need and to ease the work. Applications such as smart homes allow users to interact and control the devices enabling the user to work with assistance (Li et al., 2015).

The real-world results have far highlighted, in general, the loan to build the word "Internet" in 1999. People need more time and accuracy. This means that not everyone is very good at understanding a lot about things in this scientific era which is a barrier to IoT. The limits of human interaction underscore the potentially significant benefits of the Internet of Things as a viable technology, but only if all members of society experience these benefits. 15% of the world's population has a lifetime of disability (WHO, 2022). One of the main deterrents to the employment of persons with disabilities is creating a higher education environment for persons with disabilities. It is essential to consider whether it is more accessible in an educational context.

Recent findings address significant limitations and inconsistencies in access to global healthcare. COVID-19 thus emphasizes the importance of health and acts as an engine to improve business and relationships. However, well-established healthcare systems are facing challenges never seen before by population, transmission, and public health changes. The clinic focuses on improving the efficiency and effectiveness of services. Physicians must take advantage of new technologies that can improve their ability to prevent, diagnose and treat disease. IoT devices with assistive technology offer many advantages for medical services, but there is also a problem with patients, data time, service interaction, hardware limitation, and privacy. Privacy and security of personal patient information were always interested in childcare services. Delivery on a wireless connection contains vulnerabilities that can play with user information (de Joode et al., 2010). Continuous data transfer can lead to server downtime and network congestion. Also, a discontinuous data flow can be detrimental to the service for applications needing data to access the server in real-time. Regarding interoperability, some technology services do not work and only collect or send data. The health service is responsible for transforming this information into a helpful manner for diagnosing or evaluating

patients. However, data submissions and slow processing prevents rapid responses from public health agencies and delay testing under challenging situations. Systems that enable rapid interaction between clinics and patients can deliver faster and more reliable services. At the same time, the performance of the services is limited by the brims of the equipment used to collect and send data. Referring in particular to the ability of the device to meet the electrical and operational needs of the services promptly (Edyburn, 2020; Fernandes et al., 2006).

Tab. 1 summarizes the work that incorporates the IoT work which has been done to assist the ones in need.

4. Methods and Discussion

In the 21st century, there have been countless advances in technology. There is a coherent theme running through this progression. It is a recurring pattern that starts with a surprising invention that promises exciting new features to a lucky few, eventually changes, and ultimately benefits almost everyone. The literature review

Tab. 1: Assistive technology applications – Part 1

References	Targeted experience	Description	Assistance area
Karmel et al. (2019)	Dumb deaf and blind	Google API, a Raspberry Pi-based device to assist the audibly challenged by taking input as audio and converting it to text; for the visually impaired, converting image to text and converting to audio; for the vocally impaired, the device takes input as text by the onscreen keyboard, converts it to audio, and, via the speaker, gives the speech	Communication
Shubankar et al. (2019)	Dumb deaf and blind	Sign language gestures are picked up by the gloves and converted to speech; the system incorporates OCR and live tracking	Communication
Kumar et al. (2021)	Dumb and deaf	Sign language is based on specific commands to communicate with people and conversion to speech; information transfer using messages and android applications as well; emergency alert to the caretaker	Communication
Guo and Bai (2014)	IoT based healthcare for the elderly and disabled	Four-level models are suggested for the health monitoring home-based patients to doctors and remote consultation; vital signs can be monitored and automatically shared with the hospital	Healthcare
Hussain et al. (2015)	Healthcare for the elderly and disabled with IoT and smart cities	People-centric sensing system proposed which monitors the health and, in case of abnormalities in stats, shares the emergency enabling appropriate response	Healthcare
Latif et al. (2017)	Healthcare for the elderly and disabled with IoT and voice analysis	SVM and IoT-based systems were developed to analyze the voice of the diseased for catering to the medical emergencies of people suffering from hysteria, bipolar disorder, etc.	Healthcare
Khan et al. (2020)	Healthcare for the elderly and disabled with IoT	IoT-based systems and ideas for wearable devices to enable monitoring of the health of the disabled and elderly	Healthcare
Berger and Maly (2018)	Deaf or hard of hearing	Smart glasses solution based on a neural network that captures the voice from surroundings and converts it into appropriate text and display for better understating of the user	Surround feel aid
Bempong et al. (2015)	Deaf or hard of hearing	A smart home integration system was developed that, when integrated with the smart home, would allow deaf or hard of hearing people to access IoT-based smart homes and features	Control and accessibility

Tab. 1: Assistive technology applications – Part 2

References	Targeted experience	Description	Assistance area
Kim et al. (2009)	Disabled and stroked/sick	Mobile or LAN, network-based remote consultation of stroked on disabled people for medical prescription and monitoring, was developed and tested	Consultation and monitoring
Tuna et al. (2015)	Disabled and elderly	WSN-based health monitoring of the elderly and disabled using the sensors; a system is capable of up-gradation to observe patterns of behaviour	Monitoring
Sendra et al. (2014)	Monitoring for elderly and disabled	A smartphone-based collaborative framework was developed in which data from the mobile sensors was used to predict the case of an emergency based on data from the neighbouring phones; any odd behaviour could be observed based on the neighbouring data with a reinforcement learning-based model	Monitoring and emergency
Akhund et al. (2020)	Disabled and COVID-19 affected people	An IoT-based robotic agent was developed for handing over things (medicine, food, etc.) to minimize the interaction for COVID-19 struck disabled people aiding the mobility of delivering the needs within the same house	In-home delivery to maintain isolation
Chaudhari et al. (2016)	IoT-based assistance for the disabled(dumb, deaf, and blind) and elderly	Assistive living for an elderly and disabled system uses sensors and IoT to alert the user about collision avoidance and household object identification and provide control for both	Mobility, recognition, and control assistance
Berger et al. (2017)	Blind or visually impaired	Smart glass solution for fundamental navigation issues, which are usable for daily support of blind or visually impaired people	Mobility assistance
Kumar et al. (2017)	Blind or visually impaired	Ultrasonic sensor based walking stick for blind or visually impaired to warn for obstacles by detecting them	Mobility assistance
Nada et al. (2015)	Blind or visually impaired	IR based mobility assistance walking stick for blind or visually impaired to detect and warn for obstacles.	Mobility assistance
Sumi et al. (2019)	IoT based fall prevention for disabled systems	The IoT-based framework was developed to assist disabled people from falling, which could result in injuries; the system utilizes an accelerometer to identify a fall, alerts users about falls, and notifies caretakers and medicare attendants	Mobility assistance
Isyanto et al. (2020)	IoT based home control for disabled	IoT-based voice-controlled device to control home appliances was developed for disabled people providing more interaction and control with the daily life home environment and basic devices for need	Home devises control assistance
Schmitt et al. (2012)	Blind/reading disability	The use of a reading pen for instructional purposes and efficiency was checked in the study; although the number of subjects was small, the use of a reading pen helped the blind to memorize what was written	Blind/reading disability
Plummer and Meindl (1972)	Blind	A direct translation from text to the speech-based system was developed, which would scan and convert the words on the page at a speed of 80 words per minute	Instructional/ reading aid
Khan et al. (2020)	Blind	An AI-based system was developed to assist mobility by detecting obstacles, and an image-to-speech converter assists the blind with reading	Mobility and reading
Ahmed et al. (2016)	Deaf	The developed system acts as a sign language interpreter, converts the speech to sign language, and shows it by 3D animated signs using the screen	Interaction/ speech interpreter

Source: own

aims to identify and evaluate evidence for the support and profits of assistive technology. Technical audits delivered through the official service were provided for private or personal use. Audit processes are identified and have a wide range of evidence and an integrated approach. The method used to assess the cost-effectiveness of the assistive technology is different, and it is apparent from the beginning that the evidence was low. A document for various measurements of perceiving such remote technology should help. Assistive technologies have great future potential, especially when addressing regression issues more cost-effectively than traditional service delivery methods.

Over the past 100 years, technological progress has been incredible as we keep the whole of human knowledge on our palms. However, in many unfortunate aspects, one is not always able to proceed with assistive technology. The continued improvement of the existing technology is the only factor determining the extensive approval of the work, the school, and the home/hotel technology, which can be rosy. However, this technique, obliging to one and all with a disability that gives access to daily life, should be assumed, used, and approved. Implementing a new assistive technology depends on the perspective of many more people than just those who benefit physically. Instructors, colleagues, and family play an essential role in this regard. Moreover, with that comes many biases and misconceptions that can prevent or delay an excellent tool or process from taking full advantage of its intended users. For such concerns, the technology faces distinctive but plausible hindrances. Equipment is as nominal as the people trained for such auxiliary techniques.

The author used the criteria of Cicerone et al. (2005) to evaluate the eminence of reclaimed studies. The author's framework contains evidence-based endorsements for the practice of assistive technology in the natural world and how people with different cognitive disorder levels seem to apply it in various disciples, locations, and for clinical rehabilitation. Fifty papers were studied, of which thirteen were discarded on behalf of quality assessment, fourteen was marked as duplicate and twenty-three met inclusion criteria. Tab. 1 provides details about the implemented studies which were selected. Like all others, resources must be present to enable the complete execution of assistive technology. In general, there is no money. Auxiliary technology is an extravagance for countless folks with handicaps because they cannot manage to pay for it. Every business and organization have stood out because of the constraint of cheap technology or free services. For said reasons, the literature has also considered cost and benefit differences, as presented in Tab. 2.

The reviewed studies were classified into main categories according to the assets of examination. Tab. 3 outlines the assistive technology goals included in the study. Again, some tools are so versatile that they appear in multiple categories.

Tab. 2: Types of cost and their percentage

Type	Costs		Benefits	
	Number	Percent (%)	Number	Percent (%)
Financial	14	52	19	70
Physical	9	33	16	59
Psychological	11	41	15	56
Social	12	44	17	63
Organisational	6	22	8	30
Societal	4	15	9	33
The publication does not refer to costs of benefits	5	19	6	22
Other	3	11	4	15

Source: own

Tab. 3: Assistive technology roles studied

Roles	Number	Percent (%)
Mobility/navigation based	14	61
Health & monitoring	15	65
Emergency based	6	26
Education	9	39
Communication	16	70
Remote consultation	6	26
Home devices control	7	30
Things delivery	2	9

Source: own

Tab. 4: Locations for equipment

Category	Location	Number	Percent (%)
Medical	Hospitals	3	13
	Primary centers	2	9
	Daycare	1	4
Private	Apartments	5	22
	Care homes	3	13
Local	Municipal	1	4
	Third sector	2	9
	Social work homes	2	9
No specific location	Navigation aids	3	13
	Other	2	9

Source: own

The range of features is important because the problem arises in the context of economic feasibility studies. Tab. 4 lists where the related technologies will be deployed. The table focuses on home technologies and shows that some of the technologies included can also be used in public facilities.

The search focuses on a variety of outcomes. This may affect the level of benefits, level of personal treatment, mental or emotional well-being, and/or benefits associated with human intervention with the service. In some cases, these results are due to technology providers. In other cases, it is a decision made by the participating scientists. In many cases, the search considers multiple possibilities. Depending on the measurement results, the performance measure of the cost may produce different results. Tab. 5 shows person-level outcomes.

Conclusions

The advent of IoT in the consumer sector may not be a new concept, but its potential as an assistive technology for people with emerging disabilities is being recognized. Connectivity, affordability, the sheer volume of data available, and the way we interact with that data daily allow the IoT to benefit many areas, including higher education. Information provided by people with disabilities guides some IoT potential test projects. First of all, using real-time audio text, for Google Home.

Tab. 5: Social upshots on a personal level

Outcome	Number	Percent (%)
Self-efficacy	12	44
Confidence	9	33
Self-esteem	8	30
Adherence/compliance with intervention	9	33
Quality of life	16	59
Patient knowledge	8	30
Technology use/non-use	14	52
Ability to live independently	16	59
Sense of security	9	33
Social participation	5	19
Subjective well-being	10	37
Lifestyle changes	6	22
Other person level psychosocial outcomes not listed	4	15
No person level psychosocial outcomes were considered in this publication	2	7
Other	2	7

Source: own

Secondly, the use of OCR in the Smartboard to help students with text such as LMS devices or electronic distribution mechanisms to support students with printed failures. The third project can be designed to determine the effectiveness of other IoT consumer products in the context of people with disabilities. The project can also be evaluated to monitor trainers and students with potential decisions. Although there are low projects that are relatively small and difficult sample-based on a specific disability, future studies focus on a specific disability or this.

Currently, many things have been made in different areas that reinforce the level of handicapped throughout the world through a lot of work. Using laser fluids, a high-speed router, and audio outdoor navigation has proved helpful for visually weakened and moods/feelings of people have been improved. However, the blinds are still perfected to find objects in physical space. The ability to communicate is a crucial jump because it is not healthy without people communicating with each other. One of the most significant Internet effects in health care is that the patient is now able to communicate with remote doctors and nurses. With the communication skills, mobility, and research of people with disabilities, the Internet of Things will eventually be used to guarantee the quality educational quality for each disabled student. In the future, the technology could be used for inland navigation and resource tracking for the blind, and specific improvements could be made to assistive walking such as ground and location tracking. Additionally, as the Internet of Things becomes more popular, future research may identify additional benefits for assistive technology.

Long-term disability often results in a loss of independence and relationships. Therefore, an AT device is needed to keep the person alone for as long as possible. However, many people find it challenging to receive and use AT. This article discusses the benefits of examining descriptive data in AT training development. Support, training, and education of physicians, providers, users, and their caregivers are essential to accepting and using AT. Evidence points to the need for regular, modified, and evaluated assessments, including AT training and services.

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