

Scholarly Publications on Special Needs from the Year 2017 to 2021: A Bibliometric Study

Badrotul Muniroh binti Md Tarmize

Fakulti Pengajian Quran dan Sunnah, Universiti Sains Islam Malaysia

Nurul Asiah Fasehah binti Muhamad

Fakulti Pengajian Quran dan Sunnah, Universiti Sains Islam Malaysia

Syed Najihuddin bin Syed Hassan

Fakulti Pengajian Quran dan Sunnah, Universiti Sains Islam Malaysia

Abstract

This article aims to conduct a bibliometric analysis of academic journals on special needs in Malaysia. Special needs indicate a limitation in a person's ability to engage in and benefit from education as a result of a long-term physical, sensory, mental health, learning disability, or any other condition that causes a person to learn differently than someone who does not have such condition. This study examined scholarly journal articles concerning special needs in Malaysia that were published during the last five years, from 2017 to 2021. This research aims to discover the demographics of journal articles on special needs and identify the research areas. The demographics of the journal point out the year, language, and sources. Meanwhile, the research areas focus on the field and category of special needs. 123 articles were founded and analyzed based on the particular characteristic mentioned. As a result, in the year 2021, a huge amount of articles were published with 43 articles (35%). When compared to the Malay language, a large number of the published articles are written in English as a medium, as well as the majority of the articles, were successfully retrieved from Google Scholar. Furthermore, the publisher and research areas are vast and diverse. This study also narrowed the articles regarding the category of special needs. In a nutshell, this paper will be presented as a road map to researchers out there in their writing and raise awareness about special needs.

Keywords: Journal Articles, Special Needs, Malaysia, Bibliometrics.

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1. INTRODUCTION

According to the Department of Social Welfare, people with special needs or also known as people with disability (PWD) are individuals who have a lack of physical, mental, intellectual or sensory impairments in the long run where they are unable to commit fully and effectively to the society if they are faced with obstacles or problems. There are 7 categories of PWDs under which they can be registered namely:

- Hearing Disability / Impairment
- Visual Disability / Impairment
- Speech Disability / Impairment
- Physical Disability/Impairment
- Learning Disability
- Mental Disability / Impairment
- Multiple Disabilities / Impairments

Regard statistics shown by the Department of Social Welfare, more than 590,000 special needs in Malaysia are registered based on the seven categories listed above. Hence, this study aimed on collecting writings related to special needs issues that occur in Malaysia. This research approach design is a bibliometric study, in which the researcher seeks journal articles using a selected search engine. To demonstrate the demographics of articles, findings will be divided into multiple divisions.

As a result, this study does not just only list past studies on special needs but also consider how often the research into these special needs communities has moved. Therefore, before undertaking future studies, researchers might use this work as a road map. This article aims to discover the demographics of journal articles on special needs in Malaysia from 2017 until 2021 as well as to identify the research areas of journal articles on special needs in Malaysia related to that period of time.

2. LITERATURE REVIEW

According to the research conducted by Jani et al., (2020), an inclusive education policy would create better education opportunities for people with disabilities (PWDs) in Malaysia, but there remain numerous challenges in the process of interpreting and translating policies from paper to implementable actions. This research found that the PWDs with higher education levels mostly have a better quality of life (QoL). A study by Ghani et al., (2019) said that lack of awareness and appropriate teaching techniques among teachers may affect students' achievement. Hence teachers need to understand the appropriate teaching skills for autistic students to start the teaching and learning (T&L) class session and to understand their learning behaviour while in the classroom. This study aims to identify the augmentative and alternative communications (AAC) skills among special education teachers for autistic pupils in the classroom. A survey by Hui et al., (2021) to obtain insights into the community's knowledge about Autism Spectrum Disorder (ASD) in the context of Malaysia was conducted. The results showed that the knowledge of laypersons about speech and language deficits, education inclusion and the factual aspects of ASD is still limited. Thus, the knowledge of ASD is still low in Malaysia.

Besides that, Ibrahim et al. (2021) investigated the perceptions of parents and teachers about the implementation of students with learning disabilities (SLD) in the Malaysian context. This study is also expected to provide information for the government to review and reconstruct the vocational education for SLD as stated in the regulations. As a result, most of them also still have the wrong perception related to educational programs and research findings find that there is a need to include components of career planning, ICT and self-determination skills in the development of special education programmes. Then, there is a survey from Gang et al. (2017) about a speech-language therapy tool using an interactive book app in Bahasa Malaysia for special needs children. This survey aims to get the evaluation on the interactive storybooks (ISB) developed for special needs children whose first language is Bahasa Malaysia. As a result, some respondents agree with the ISB and some of them give several suggestions to improve the application. Another investigation from Mat Zin et al. (2021) was about electropalatography (EPG). EPG is a device that can be used to identify the location of the tongue and hard palate contact which can also be used by a speech therapist to help patients who have a speech disorder. This investigation aims to examine the design and development process of commercially available EPG systems in their early introduction. Thus, the advanced EPG system suggested in this study may expand the usage of the EPG and serve as a tool to provide speech therapy treatment services and not limited to monitoring only.

People with disabilities worldwide face many barriers that impede their involvement in all life facets, including attitudinal, environmental, or institutional barriers. Many older people with disabilities face more age barriers in society and are among the most negatively affected (Rezali et al., 2021). Other than that, the study conducted by Omar et al., (2019) under the topic Status of visual impairment among indigenous (Orang Asli) school children in Malaysia reported, the causes of vision impairment among Orang Asli children in this study included refractive errors, amblyopia, strabismus and ocular abnormalities. Thus, vision screening and a comprehensive eye examination is very important and needs to be done on all Orang Asli children so the vision visual problems can be detected at an early stage to avoid developmental learning difficulties among these already disadvantaged children.

Isa et al. (2017) state in their research, future research efforts may consider the child's factors and other potential family stressors such as caregiving demands, financial strain, and marital satisfaction. The purpose of this study is to determine whether caregiver coping styles may be predictors of perceived stress. Then, the study by Hasan et al., (2019) showed that the median direct and indirect costs, excluding medications and alternative care were nearly four times as high in Home-Based compared to Centre-Based. But this result fills up the research which aims to estimate the cost incurred by caregivers for children with disabilities from Pahang, Terengganu and Kelantan participating in Community-Based Rehabilitation (CBR) (Centre-Based and Home-Based) and the cost of seeking alternative rehabilitation. Other than that, Amin & Adros (2019) conducted a preliminary analysis of the extra costs of having a disability, by taking the staff of the International Islamic University Malaysia (IIUM) as the sample to find whether the extra costs of a disability differ across severity levels, types of disability, gender of PWDs, and residential areas of PWDs.

The topic of special needs is typically brought up in the context of education. However, this does not restrict it from being mentioned and highlighted in other contexts, Izam & Wan Azlinda (2020) reported in their research that unemployment in Malaysia has involved all segments of society including the people from the special needs group and unemployment among people with special needs also harms the country's growth. Next, Mustaffa et al., (2020) stated that the involvement of entrepreneurs with disabilities in social entrepreneurship (SE) will produce social entrepreneurs who will contribute to society through a variety of approaches and channels. Thus, this paper elaborates on how SE can be treated as a mechanism for overcoming issues related to PWDs' employability in the Malaysian context.

3. PROBLEM STATEMENT

In Malaysia, special needs or also known as persons with disability are not labelled out landed or strangers. They also have a position throughout our nation's accomplishments. However, because of the lack of awareness and disclosure about this community, there is a gap between the special needs community and society. In order to understand this issue, the research aims to explore the literatures related to special needs community in Malaysia. Hence, many parties will get benefits from the finding especially the researchers, students, teachers also the government. This study will focus on describing the literatures based on year published, medium of language, source of information, research areas and categories of special needs.

4. METHODOLOGY

Reflecting on the purpose of this research, bibliometric analysis was implemented as the framework of this research and the researcher used library research as a data collection method. Bibliometrics is the use of statistical methods to analyse books, articles, and other publications. According to Ellegaard & Wallin (2015), bibliometric methods have been used for providing quantitative analysis of written publications. Therefore, online and free access journal articles related to special needs were selected as to be the data. After that, data and results are drawn and the conclusion is synthesized using statistical methods.

Table 1: Keywords Used in Searching

Special needs+Malaysia
Orang kurang upaya+Malaysia
Hearing impairment+Malaysia
Kurang upaya pendengaran+Malaysia
Visual impairment+Malaysia
Kurang upaya penglihatan+Malaysia
Learning disability+Malaysia
Kurang upaya pembelajaran+Malaysia
Physical impairment+Malaysia
Kurang upaya fizikal+Malaysia

Communication disorder+Malaysia
Kurang upaya pertuturan+Malaysia
Mental disability+Malaysia
Kurang upaya mental+Malaysia
Multiple Disability+Malaysia
Kurang upaya pelbagai+Malaysia

5. FINDINGS

The researcher identified around 136 journal articles related to special needs from 2017 until 2021 with the abovementioned keywords. After the screening process, 123 journal articles have been chosen according to the objectives.

Table 1: Bibliometric Analysis of Special Needs in Malaysia for Years (2017-2021)

Author	Title	Year
(Ab Rahman, A., Syed Shamsudin, S. S., Nozlan, N. N., Abd. Shakor, M. F., & Sukari, A., 2021)	“Pandemik COVID-19: Cabaran Pengajaran dan Pembelajaran (PDP) Pendidikan Islam Dalam Pendidikan Khas Bagi Pelajar Orang Kurang Upaya (OKU) Masalah Pembelajaran Di Malaysia.”	2021
(Abdul Rauf, S. H., & Rosli, N. F., 2021)	“A Review Paper on the Definition of ‘Disability and Employment.’”	2021
(Ali, S. A., Reza, F., Fadzil, N. A., Mustafar, F., & Begum, T., 2021)	“A Mini-Review: Visual and Auditory Perception in Dyslexia. <i>IJUM Medical Journal Malaysia</i> ”	2021
(Asahar, S. F., Malek, K. A., & Isa, M. R., 2021).	“Quality of life and child’s autism-specific difficulties among Malaysian main caregivers: A cross-sectional study.”	2021
(Azaliney Binti Mohd Amin, F., Mohd Mokhtar, N., Adibah binti Ibrahim, F., Norazmi bin Nordin, M., Cawangan Negeri Sembilan Fakulti Pengurusan dan Perniagaan, M., & Teknologi MARA Pahang Fakulti Sains Sosial dan Kemanusiaan, U., 2021)	“A Review of The Job Satisfaction Theory For Special Education Perspective.”	2021
(Azizan, C. R., Roslan, S., Abdullah, M. C., Asimiran, S., Zaremohzzabieh, Z., & Ahrari, S., 2021).	“Does a person-environment-fit promote the academic achievement of hearing-impaired students in Malaysian polytechnics? The mediating effects of satisfaction and adjustment.”	2021
(Bakar, M. A. A., Samat, N., & Yaacob, N. S., 2021).	“Spatial accessibility to health care services among children with cerebral palsy in Johor, peninsular Malaysia”	2021
(Chong, J. W., Che Din, N., & Joyce, P. J., 2021).	“A Narrative Review on Biopsychosocial Predictors of Cognitive Impairment among Multiple Sclerosis Patients: Directions for Malaysia Studies.”	2021
(Chu, S. Y., Kassim, S. N. Z. binti, Gan, C. H., Fierro, V., Chan, C. M. H., & Hersh, D., 2021).	“Sometimes I Feel Grateful...”: Experiences of the Adolescent Siblings of Children with Autism Spectrum Disorder in Malaysia”	2021
(Govindasamy, P., Amin, A. S., & Subhi, N., 2021).	“Cabaran Kaunselor Dalam Praktis Kaunseling Bagi Orang Kurang Upaya Di Hospital.”	2021
(Gunasegar, D., Devarajah, A. D., & Rosli, R., 2021).	“A Systematic Literature Review of Empirical Evidence on Students with Mathematics Learning Disabilities”	2021
(Hui, M. L., Lay, W. L., Che Ahmad, A., Ghazali, E. E., Phaik, K. T., & Sien, A. S. L., 2021).	“A Survey of Lay Knowledge of Autism Spectrum Disorder in Malaysia.”	2021
(Isa, S. N. I., Ishak, I., Rahman, A. A., Saat, N. Z. M., Din, N. C., Lubis, S. H., Ismail, M. F. M., & Suradi, N. R. M., 2021).	“Quality of life among caregivers of children with special needs in Kelantan, Malaysia: The importance of psychosocial mediators”	2021
(Rahmat, N. E., Mahmood, A., & Othman, M. F., 2021).	“Legal Knowledge and Awareness of The School Teachers on The Educational Rights of Children with Special Needs in Malaysia.”	2021

(Jamaluddin, R., Sapak, M. F. M., Kadir, S. A., Hajaraih, S. K. M., & Kamis, A., 2021).	“The Implementation of Vocational Skills in Teaching and Learning of People with Disabilities in the Community-Based Rehabilitation Center (CBRC): A Review from Ecological Environments Perspective.”	2021
(Jemon, S., & Saiman, M. S., 2021).	“Faktor Mempengaruhi Orang Kurang Upaya Menyertai Program Return to Work: Suatu Sorotan Awal”	2021
(Kee, Q. T., Abd Rahman, M. H., Mohamad Fadzil, N., Mohammed, Z., & Shahar, S., 2021).	“The impact of near visual impairment on instrumental activities of daily living among community-dwelling older adults in Selangor.”	2021
(Lee, W. Y., Tan, J. T. A., & Kok, J. K., 2021).	“The Educational Experiences of Deaf Students in Ipoh, Malaysia.”	2021
(Fazree, S. D. M., Zakaria, S. M., & Mokhtar, D. M. M., 2021).	“Penjagaan Anak Kurang Upaya Di Klang, Selangor: Pengalaman Hidup Dan Krisis Yang Dialami Ibu.”	2021
(Mahsan, I. P., 2021).	“Expression of art and visual communication among special needed students of visual arts education subjects in primary schools”	2021
(Maseri, M., Mamat, M., Yew, H. T., & Chekima, A., 2021).	“The implementation of application software to improve verbal communication in children with autism spectrum disorder: A review.”	2021
(Mat N, Samsudin S, & Applanaidu SD., 2021)	“A Review on the Association of Mental Disorders and Workers’ Productivity in Malaysia”	2021
(Mat Zin, S., Md Rasib, S. Z., Suhaimi, F. M., & Mariatti, M., 2021).	“The technology of tongue and hard palate contact detection: a review.”	2021
(Maznorbalia, A. S., Ismail, Z., & Hussein, Z., 2021)	“A Content Analysis on Diversity and Person With Disabilities in CSR-Awarded Companies in Malaysia”	2021
(Ng Ai Lee, A. Q., Eng Hock, K., & Hosshan, H., 2021).	“Essentials of Pre-Braille Skills in Braille Learning: A Literature Review.”	2021
(Ishak, S. H., Masrop, N. A. M., Zainuddin, G., Sahrir, M. S., Sahuri, S. N., 2021).	“Educational Software for Dyslexic Children: A Systematic Literature Review.”	2021
(Ong, S. Y., Roslan, S., Ahmad, N. A., Ayub, A. F. M., Chen, L. P., & Taresh, S. M., 2021).	“Parents’ experience in children’s friendship training programme for their children with autism spectrum disorder: A qualitative inquiry.”	2021
(Ong, S. Y., Roslan, S., Ahmad, N. A., Ayub, A. F. M., Ping, C. L., Zaremohzzabieh, Z., & Ahrari, S., 2021).	“A mixed-methods evaluation of parent-assisted children’s friendship training to improve social skills and friendship quality in children with autism in Malaysia.”	2021
(Pazim, K. H., Roslinah, M., Fzlinda, F. N., Juliana, L., & bin Nordin, M. N., 2021)	“Special Education Teachers Job Satisfaction In Malaysia: A Review”	2021
(Rahman, A. A. R., Nurul Nadia Nozlan, Hussein ‘Azeemi Abdullah Thaidi, Muhammad Firdaus Ab Rahman, & Mohamad Anwar Zakaria, 2021).	“Pandemik COVID-19: Isu Penggunaan ICT Dalam Proses Pengajaran dan Pembelajaran (PdP) Bagi Pelajar Orang Kurang Upaya (OKU) di Institusi Pendidikan Khas di Malaysia.”	2021
(Rahmat, S., Rahman, S. A., Tukiran, N. H., Musa, R., Othman, N. A., & Dzulkarnain, A. A. A., 2021).	“Development of hearing impairment inventory for religious duties of Muslim adult.”	2021
(Rahmat, S., Yati, I. E. S., Musa, R., Rahman, S. A., Ahmad, N. S., & Dzulkarnain, A. A. A., 2021).	“Psychometric properties of the Malay inventory for the perception of Muslims with hearing impairment”	2021
(Rashidan, M. A., Sidek, S. N. I., Yusof, H. M., Khalid, M., Dzulkarnain, A. A. A., Ghazali, A. S., Zabidi, S. A. M., & Sidique, F. A. A., 2021).	“Technology-Assisted Emotion Recognition for Autism Spectrum Disorder (ASD) Children: A Systematic Literature Review”	2021
(Rezali, M. S., Ab Wahab, N. A., Sahril, N., Ramli, M. H. T., Shahein, N. A., Chan, Y. Y., Ab Majid, N. L.,	“Prevalence and Factors Associated with Self-Reported Vision Disability among the Elderly in Malaysia: Findings from National Health and Morbidity Survey (NHMS) 2018”	2021

Ahmad, M. H., & Kassim, M. S. A., (2021).		
(Romlay, M. R. M., Toha, S. F., Ibrahim, A. M., & Venkat, I., 2021).	“Methodologies and evaluation of electronic travel aids for the visually impaired people: A review”	2021
(Roslan, M. A. S., Hashim, H., Baharuddin, A. S., & Ab Rahman, A., 2021).	“Analisis Literatur Tentang Tatacara Perbicaraan Jenayah Syariah Bagi Orang Kurang Upaya Di Mahkamah Syariah”	2021
(Salmuni, W., Mustafa, W., Rahman, R. A., & Wahid, H. A., 2021).	“Knowledge of Special Nutrition for Children with Autism Spectrum Disorder Among Parents and Special Educators in Malaysia”	2021
(Shohaimi, D. A., Sahidan, S. F. I., Zulkifly, M. A., Hasibuan, N. T., Ismail, N. A. S., Hamzaid, N. H., & Hassan, N. I., 2021).	“Knowledge of Special Nutrition for Children with Autism Spectrum Disorder Among Parents and Special Educators in Malaysia”	2021
(Sukiman, S. A., & Abdl Aziz, N., 2021).	“Artificial Intelligence As The Key Player In Learning Interventions: A Mini-Review Among Students With Learning Difficulties.”	2021
(Umiera Hashim, H., Md Yunus, M., & Norman, H., 2021).	“English As Secondary Language Learning and Autism Spectrum Disorder: The Obstacles in Teaching and Learning the Language.”	2021
(Ying, K., Van Rostenberghe, H., Kuan, G., Mohd Yusoff, M. H. A., Ali, S. H., & Yaacob, N. S., 2021).	“Health-related quality of life and family functioning of primary caregivers of children with cerebral palsy in Malaysia.”	2021
(Yousif, M., 2021).	“Humanoid Robot Enhancing Social and Communication Skills of Autistic Children: Review.”	2021
(Zaki, N. H. M., & Ismail, Z., 2021).	“Towards Inclusive Education for Special Need Students in Higher Education from the Perspective of Faculty Members: A Systematic Literature Review.”	2021
(Zulkefli, M. Y., & Rabi, N. M., 2021).	“Exploring the Usage of Computer-Mediated Communication in Assisting Individual with Autism Spectrum Disorder to Communicate”	2021
(Abdul Rauf Abdul Rasam, Azri Haziq Azlin, Noraqila Aiman Abu, A. N. I. & N. R., 2020).	“Aplikasi dalam pen Sistem Maklumat Geografi Bagi Penjagaan Kesihatan Orang Kurang Upaya (Mobile GIS Applications for People with Disabilities Healthcara Services)”	2020
(Ahmad, N., Wan Zahari, W. A. M., & Kirin, A., 2020)	“The Implementation of Hadith Studies for Visually Impaired People in Malaysia: Issues and Challenges”	2020
(Alshutwi, S. M., Ahmad, A. C., & Lee, L. W., 2020)	“The impact of inclusion setting on the academic performance, social interaction and self-esteem of deaf and hard of hearing students: Systematic review and meta-analysis.”	2020
(Amin, A. S. Roshazad, N. A. Akhir, N. M., 2020)	“The Cultural Representation of Disabled Women in Malaysia”	2020
(Ariffin, M. S. Abdullah, F., 2020).	“Cabaran Dalam Penjagaan Orang Pekerja Sosial Perubatan (The Challenges in Caregiving Persons With Disabilities From The Medical Social Workers’ Perspectives)”	2020
(Arshad, N. I., Hashim, A. S., Mohd Ariffin, M., Mohd Aszemi, N., Low, H. M., & Norman, A. A., 2020).	“Robots as Assistive Technology Tools to Enhance Cognitive Abilities and Foster Valuable Learning Experiences among Young Children with Autism Spectrum Disorder”	2020
(Baharudin, N. S., Harun, D., & Kadar, M., 2020).	“An assessment of the movement and function of children with specific learning disabilities: A review of five standardised assessment tools.”	2020
(Bujang, N. A., Jima’ain @ Ajmain, M. T., & Saari, Z., 2020).	“Penerapan Konsep IKHLAS Dalam Menyantuni Anak Istimewa (Autisme) (Implementation of IKHLAS Concept In Treating Special Needs).”	2020
(de Vries, M., Cader, S., Colleer, L., Batteux, E., Yasdiman, M. B., Tan, Y. J., & Sheppard, E., 2020).	“University Students’ Notion of Autism Spectrum Conditions: A Cross-Cultural Study.”	2020
(Dzulkifli, I., Suhid, A., Fakhruddin, F. M., & Ahmad, N. A., 2020).	“Teacher Communication challenges in teaching Islamic education to pupils with hearing impairment.”	2020

(Esa, M. M., Ismail, E., 2020).	“Analisa Kemudahan Orang Kurang Upaya Di Kolej Komuniti.”	2020
(Ezrina Mohamad Esa & Alice Sabrina Ismail., 2020).	“Analisis Kemudahan Prasarana Pelajar Orang Kurang Upaya di Kolej Komuniti.”	2020
(Jani, R., Alias, A. A., & Tumin, M., 2020).	“Persons with disabilities ’ education and quality of life : Evidence from Malaysia”	2020
(Harun, D., Din, N. C., Rasdi, H. F. M., & Shamsuddin, K., 2020).	“Employment experiences among young Malaysian adults with learning disabilities. International”	2020
(Hussin, S., 2020).	“Policies On Persons With Special Needs and Education: An International Perspective and Country Initiatives.”	2020
(Ismail, N. A. S., Ramli, N. S., Hamzaid, N. H., & Hassan, N. I., 2020).	“Exploring eating and nutritional challenges for children with autism spectrum disorder: Parents’ and special educators’ perceptions.”	2020
(Izam, S., & Wan Azlinda Wan Mohamed., 2020).	“The Unemployment of Special Needs with Learning Disability People in Malaysia: Reality or Fantasy”	2020
(Jayanath, S., & Ozonoff, S., 2020).	“First parental concerns and age at diagnosis of autism spectrum disorder: A retrospective review from Malaysia”	2020
(Tang, L. S., & Manisah, M. A., 2020).	“Kesan nomofobia terhadap estim sendiri murid-murid berkeperluan khas”	2020
(Mas S. Ahmad, I. W., 2020).	“Extramural Oral Health Educational Program Involving Individuals With Disabilities: Impact on Dental Students' Professionalism”	2020
(Mohammad, H., Bani, F., Haji, R., & Rauf, A., 2020).	“Autism Spectrum Disorder vs Specific Language Impairment Comprehension for Sentences with Syntactic Movement : A Review of Findings”	2020
(Mustaffa, C. S., Halim, H., Ahmad, J., Ishak, Q., & Johari, N. A., 2020).	“Disability and Poverty: A Review on Social Entrepreneurship Opportunities for Persons with Disabilities in Malaysia.”	2020
(Naimie, Z., Ahmad, N., Shoaib, L., Safii, S., & Mohamed Rohani, M., 2020).	“Curriculum for Special Care Dentistry: Are we there yet?”	2020
(Omar, M. K., Rashid, A. M., Sariapan, M. I., Puad, M. H. M., Ismail, I. M., & Hussain, M. A. M., 2020).	“Trends and Issues on Hiring People with Disabilities (PWDs) for Employment: A Systematic Review”	2020
(Rabiatuladawiyah, S., & Mohd Nizam, S., 2020).	“Sorotan Literatur Sistematis Isu dan Cabaran Pengajaran al-Quran Murid Berkeperluan Khas.”	2020
(Rahman, M. M., Usman, O. L., Muniyandi, R. C., Sahran, S., Mohamed, S., & Razak, R. A., 2020).	“A review of machine learning methods of feature selection and classification for autism spectrum disorder.”	2020
(Rahman, R. A., & Rahman, R. A., 2020).	“The Trends of Community Audience for Mobile Application Fields : A Review”	2020
(Taresh, S., Ahmad, N. A., Roslan, S., Ma’rof, A. M., & Zaid, S., 2020).	“Pre-school teachers’ knowledge, belief, identification skills, and self-efficacy in identifying autism spectrum disorder (ASD): A conceptual framework to identify children with ASD.”	2020
(Teng, C. E., & Joo, T. M., 2020).	“Representation of Disabled Community in Mainstream Media.”	2020
(Zainudin, N. F. Azhari Z. M. Kosnin, A. M. Saleh, S., 2020).	“A Systematic Review: Reading Comprehension Intervention for Students with Learning Disability”	2020
(Adib, N. A. N., Ibrahim, M. I., Rahman, A. A., Bakar, R. S., Yahaya, N. A., Hussin, S., & Wan Mansor, W. N. A., 2019)	“Perceived stress among caregivers of children with autism spectrum disorder: A state-wide study”	2019
(Adib, N. A. N., Ibrahim, M. I., Rahman, A. A., Bakar, R. S., Yahaya, N. A., Hussin, S., & Wan Mansor, W. N. A., 2019)	“Predictors of caregivers’ satisfaction with the management of children with autism spectrum disorder: A study at multiple levels of health care”	2019
(Ahmad Razuan, S. R., Mohd Raus, N., Hashim, M., Rasdi, M. N. A., Mohamed Yusoff, A., Ja’afar, N., & Muhamad, N. A. F., 2019)	“Pendidikan Al-Quran Bagi OKU: Pengalaman Pusat Penyelidikan Ibnu Ummi Maktum (UMMI)”	2019

(Altaher, A. M., Chu, S. Y., Kam, R. binti M., & Razak, R. A., 2019)	“A Report of Assessment Tools for Individuals with Dysarthria.”	2019
(Amin, R. M., & Adros, N. S. M., 2019)	“The extra costs of having a disability: The case of IIUM.”	2019
(Amran, H. A., & Majid, R. A., 2019)	“Learning strategies for twice-exceptional students.”	2019
(Amri, N. A., Quar, T. K., & Chong, F. Y., 2019).	“Meeting the best practice for hearing aid verification in children: Challenges and future directions”	2019
(Bakar, A. Y. A., Ahmad, S. N., & Mahmud, M. I., 2019).	“School guidance and counselling services for special education students in Malaysia: A literature review.”	2019
(Basri, N. A., & Hashim, N. N. W. N., 2019).	“Stress in parents of children with autism: A Malaysian experience.”	2019
(Ghani, S. A., Yassin, M. H. M., & Mohamed, S., 2019).	“Level of Augmentative and Alternative Communication Knowledge and Skills among Special Education Teachers for Autistic Students in Primary School.”	2019
(Hasan, H., Aljunid, S. M., & Amrizal, M. N., 2019).	“The costs of caregivers for children with disabilities that participate in centre-based and home-based community-based rehabilitation (CBR) programmes in the east coast of Malaysia.”	2019
(Zamin, N. Norwawi N.M. Nursyafira Arshad N.I. Rambli D.R.A., 2019).	“Make Me Speak: A Mobile App for Children with Cerebral Palsy.”	2019
(Kamarudin, D., & Hussain, Y., 2019).	“Implementation of Malaysian Hand Signal Codes into Applications for the Hearing Impaired.”	2019
(Mohammed, S. A., Azahari, N. F., & Sayuti, W. N. S. W. A., 2019).	“The design of a speech delay screening mobile application for Malaysian parents”	2019
(Mohd Nordin, N. A., Shan, E. H., & Zanudin, A., 2019).	“The unmet needs of parents of highly dependent children with cerebral palsy”	2019
(Muhammad Haziq Mohd Sharif, & Nurul Akma Jamil., 2019).	“Cabaran ibu bapa bersama kanak-kanak kecelaruan spektrum autisme (ASD): Tinjauan literatur.”	2019
(Omar, R., Wan Abdul, W. M. H., & Knight, V. F., 2019).	“Status of visual impairment among indigenous (Orang Asli) school children in Malaysia.”	2019
(Ong, J. J., 2019).	“Parental satisfaction and perception of Progress in influencing the Practice of complementary health approaches in children with autism: A cross-sectional survey from Negeri Sembilan, Malaysia.”	2019
(Tan, E. H. F., & Mohamad, Z. S., 2019).	“Early intervention services for special needs children: An exploration of the effectiveness of early special education in Malaysia”	2019
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(Yun, Y. S., Syed Jaapar, S. Z., Fadzil, N. A., & Cheng, K. Y., 2018).	“Validation of the Malay version of the affiliate stigma scale among caregivers of patients with mental illness”	2018
(Chan, Z. H., Sudirman, R., & Omar, C., 2017).	“Autistic spectrum disorder: EEG analysis and classification.”	2017
(Gang, B. X., Zainudin, S., Ibrahim, H. M., & Chun, L. M., 2017).	“A speech-language therapy tool using interactive book app in Bahasa Malaysia for special needs children”	2017
(Hassouna, M. S., Sahari, N., & Ismail, A., 2017).	“University website accessibility for totally blind users.”	2017
(Isa, S. N. I., Ishak, I., Ab Rahman, A., Mohd Saat, N. Z., Che Din, N., Lubis, S. H., & Mohd Ismail, M. F., 2017).	“Perceived stress and coping styles among Malay caregivers of children with learning disabilities in Kelantan”	2017
(Jaafar, H. J., Wahab, H. A., & Yaacob, N., 2017).	“Amalan Pengurusan Pekerja Kurang Upaya dalam Sesebuah Organisasi Berdasarkan Undang-Undang di Malaysia”	2017
(Mohemad, R., Mamat, N. F. A., Mohamad Noor, N. M., & Che Alhadi, A., 2017).	“Computational Approaches in Supporting Special Education Domain: A Review.”	2017
(Najah Nadiyah Amran, & Hamdi Ishak., 2017).	“Service-learning bersama OKU: Pengalaman latihan industri pelajar FPI, UKM.”	2017
(Nor, N. M., Manaf, H., & Azhari, N. A. M., 2017).	“A conceptual model for developing a valid and reliable questionnaire on nutritional knowledge and supplement habits among disabled athletes in Malaysia”	2017
(Nur Hamiza Ruzaini, H., Sakinah, H., Raishan Shafini, B., & Nur-Fazimah, S., 2017).	“Prevalence and Risk Factors Associated with Malnutrition among Children with Learning Disabilities: A Scoping Review.”	2017
(Sam, W. Y., Anita, A. R., Hayati, K. S., Haslinda, A., & Lim, C. S., 2017).	“Prevalence of hearing loss and hearing impairment among small and medium enterprise workers in Selangor, Malaysia”	2017
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(Zamani, N. A., Azah, N., Aziz, A., Zukifli, C. Z., Ibrahim, A. B., Pendidikan, U., Idris, S., & Malim, T., 2017).	“A Literature Review on Multimedia Learning Device for Dyslexic Students.”	2017

The following tables represent the demographic and research areas of the journal articles on special needs in Malaysia from 2017 until 2021.

5.1 Year of Publication

Table 2 represents the summary of the data using percentages to make people easier to understand the data. The year of publication started from 2017 to 2021 with a total of 13 articles (10%) in 2017. Next, followed by a total of 17 articles (14%) in 2018. Meanwhile, in 2019 a total of 19 articles (15%) were obtained and 30 articles (25%) in 2020. Finally, a total of 44 articles (36%) were found in 2021 and this indicates that 2021 was the highest year that publishing articles related to special needs and the lowest year of publication of the articles are the year 2017.

Table 2: Year of publication of the article in special needs from 2017 until 2021

Year (n=123)	Freq. (f)	Percentage (%)	Article
2017	13	10	29,41,49,53,58,79,83,86,87,106,109,110,122
2018	17	14	12,16,17,23,30,31,34,36,43,47,52,65,75,98,107,115,119
2019	19	15	4,5,6,10,13,14,15,25,27,42,48,54,63,77,78,80,89,90,112
2020	30	25	2,7,9,11,18,19,24,28,35,37,38,39,40,46,51,56,57,61,68,70,76,81,82,88,94,96,97,113,114,120
2021	44	36	1,3,8,20,21,22,26,32,33,44,45,50,55,59,60,62,64,66,67,69,71,72,73,74,84,85,91,92,93,95,99,100,101,102,103,104,105,108,111,116,117,118,121,123

5.2 Medium of Language

Table 3 explains the frequency of language as a medium that is used in articles related to special needs from 2017 until 2021. English language and Malay language are chosen as a language medium during retrieving the data. As a result, there are 101 articles (82%) are written in the English language and the rest 22 articles (16%) are presented using the Malay language.

Table 3: Language used in the articles on special needs from 2017 until 2021

Language (n=123)	Freq. (f)	Percentage (%)	Article
English	101	82	3,4,5,7,9,10,11,12,13,14,15,16,17,19,20,21,22,23,24,25,26,27,29,31,31,32,33,34,35,37,40,41,42,43,45,46,47,48,49,50,51,53,54,55,56,57,59,60,61,63,64,65,66,69,70,71,72,73,74,75,76,77,78,79,81,82,83,84,85,86,87,88,89,90,91,92,93,96,97,98,99,100,101,102,103,107,108,109,110,111,112,113,114,116,117,118,119,120,121,122,123,124
Malay	22	16	1,2,6,8,18,28,36,38,39,44,52,58,62,67,68,80,94,95,104,105,107,115

5.3 Source of Information

According to Table 4, there are 4 sources involved in collecting journal articles related to special needs from 2017 until 2021. These 4 sources consist of Semantic Scholar, ResearchGate, Google Scholar, and ProQuest. There are 11 articles (10%) retrieved from Semantic Scholar and 62 articles

(50%) from Google Scholar. Next, the researcher retrieved 19 articles (15%) thru ResearchGate and the rest 31 article (25%) from ProQuest. To sum up, Figure 4 shows Google Scholar as the best source for retrieving various articles.

Table 4: Sources of information

Sources (n=123)	Freq. (f)	Percentage (%)	Article
Semantic Scholar	11	9	1,12,53,57, 62,95,98,99,100,104,112
Google scholar	62	50	3,8,9,10,14,16,17,19,21,23,24,25,28,29,31,32,33,37,41,42,43,45,49,50,51,55,60,61,63,66,69,71,72,73,75,76,79,80, 81,82,84,85,87,88,93,94,96,97,101,103,105,108,109,110,111,113, 116,118,120,121,122,123,
Researchgate	19	15	2,6,7,11,18,36,38,39,40,52,54,58,59,65,74,83,106,107, 115
ProQuest	31	25	4,5,13,15,20,22,26,27,30,34,35,44,46,47,48,56,64,67,68, 70, 77,78,86,89,90,91,92,102,114,117,119

5.4 Research Areas

Table 5 presents the research areas on special needs in journal articles within the last five years. There is 9 fields of research area that have been discussing special needs starting with Business and Management covered 9 articles (21%). 13 articles (11%) in the field of Computer Science and Information Technology and 28 articles (23%) in the Education field. Next, Environmental, Agricultural, and Physical Sciences covered 11 articles (9%) meanwhile only 3 articles (2%) were present in Government and Law. Then, 4 articles (3%) were found in Media and Communications field followed by Medical, Hand Life Sciences with 27 articles (22%). Science and Engineering 2 articles (2%) and 26 articles (21%) under Social Sciences and Humanities.

Table 5: Research areas on special needs from 2017 until 2021

Subject (n=123)	Freq. (f)	Percentage (%)	Article
Business and management	9	7	18,47,48,57,62,74,88,93,106
Computer science and info. technology	13	11	12,19,29,41,54,71,73,79,96,101,111,118,123
Education	28	23	1,6,7,14,21,25,28,36,37,40,42,51,59,60,63,66,69, 76,84,94,95,98,105,112,116,120,121,85
Environmental, agricultural, and physical sciences	11	9	20,22,30,35,38,39,44,46,78,92,117
Government and law	3	2	52,58,104
Media and communications	4	3	77,122,97,114
Medical, healthcare and life sciences	27	22	4,5,10,15,16,23,24,26,27,34,43,53,55,61,68,70,72,75,82,86,87,99,100,102,108,110,119
Science and engineering	2	2	30,103
Social sciences and humanities	26	21	2,3,8,9,11,13,17,31,32,33,45,50,56,64,65,67,80,81,83,89,90, 91,107,109,113,115

5.5 Categories of Special Needs

The researcher then emphasises the category of special needs as part of the article's demographics to make this research go deeper. According to the Department of Social Welfare, special needs are divided into 7 categories excluding the term 'General'. The term 'General' above determine the articles that discuss special needs without focusing on the category specifically. Table 6 shows us the statistic and percentage of each category of special need in articles from 2017 until 2021. Firstly, hearing impairment with 13 articles (11%) followed by visual impairment with 10 articles (8%). Next, as many as 43 articles (35%) was found in the learning disability category and general. Meanwhile, only 5 articles (4%) discuss communication disorders and 6 articles (5%) are found in the physical impairment category. Lastly, only 3 articles (2%) on mental disability were found and 0% for multiple disabilities and these two are the lowest ranks among other categories.

Table 6: The category of special needs in the articles from 2017 until 2021

Category (n=123)	Freq. (f)	Percentage (%)	Article
Hearing impairment	13	11	9,15,22,37,63,65,66,98,99,100,106,107,110
Visual impairment	10	8	7,30,31,49,64,75,84,89,102,103
Learning disability	43	35	4,5,8,17,19,20,23,24,27,28,29,32,33,35,43,45,46,47,50,53,54,56,57, 61,71,76,80,85,87,90,91,92,96,101,108,109,111, 113,116,118,120,122,123
Communication disorder	5	4	10,41,42,73,107
Physical impairment	6	5	11,16,26,78,115,117
Mental disability	3	2	34,72,119
Multiple disabilities	-	-	-
General	43	35	1,2,3,6,12,13,14,18,21,25,36,38,39,40,44,48,51,52,55, 58,59,60,62,67,68,69,70,74,79,81,82,83,86,88,93,94,95,97,104,105, 112,114,121

6. DISCUSSION

The first objective is to discover the demographics of journal articles on special needs with the keyword "Malaysia" from 2017 until 2021. Because this study is bibliometric, it is good for us to point out the demographic characteristics that are in the journal articles. The researcher highlighted three demographic characteristics: year of publication, language and source of information.

A total of 123 articles were identified meeting the required criteria. The selection period for the past five years (2017-2021) is a period that is neither too long nor too short to study. Furthermore, researchers out there are more focused on the latest research as a highlight and reference study. Therefore, the year 2021 is a year that produces a lot of writing related to special needs with 43 articles from 123 articles that equal 35%. In addition, the language medium given attention by the researcher is English and Malay language. This is because this study's area is conducted in Malaysia and these two languages are the dominant languages used in Malaysia. Even though this research looks at scenarios in Malaysia where the average can participate in Malay, publishing papers in English still steals the show because it is the mainstream academic language.

By referring to Table 3, 101 articles out of 123 articles were published in the English language and this brings out 82%. Furthermore, when it comes to publications, researchers do not limit themselves to Malaysian publications but also publish internationally, as long as their research is relevant to Malaysian society. Surprisingly, international publications frequently cover issues

regarding people with special needs. This reveals that our national scholars take the subject of people with special needs seriously enough to publish their work on a global scale. In addition, these publications is available through search engines and easily accessible resources, namely: Semantic Scholar, ResearchGate, Google Scholar and ProQuest. Plus, the collected articles are all accessible for free. Thus, Google Scholar is the one that has the most articles journals related to special needs with a percentage of 50% indicating 62 articles.

Next is to identify the research areas of journal articles on special needs in Malaysia from 2017 until 2021. Apart from the information related to the year published, medium of language and source of information of the article, the researcher also identified the study areas and special needs category found in the article. There are many fields of study out there and only 9 fields are involved in this study which are:

- Business and management
- Computer science and information technology
- Education
- Environmental, agricultural, and physical sciences
- Government and law
- Media and communications
- Medical, healthcare and life sciences
- Science and engineering
- Social sciences and humanities

According to the findings of the study, educational concerns received the most attention, contributing to 23% of the 123 articles followed by medical, healthcare and life sciences with 22% and 21% in social sciences and humanities. These three fields are very common in our society and environment, but we must pay attention to the other fields or areas where less focus is placed. This aim makes it easier for other researchers to do research and analyze the frequency of research in a particular field and provide the scope of research required according to current suitability and needs. In addition, the division by category of special needs refers to the list of categories stated by the Social Welfare Department. It can also contribute to the research of this study so that people can assess the extent to which the approach and emphasis are given to a particular category. Finally, all the data analyzed are attached in the form of tables and pie charts to make it easier for the reader.

7. CONCLUSION

According to previously examined data, there has been a gradual growth from 2017 to 2021. The topics that have been researched are also diverse. However, some points must be underlined to ensure the continuation and development of the discussion on the topic of persons with special needs. One of the important points upon which emphasis should be addressed is to broaden the discourse by category so that the frequencies delivered are balanced and equal. Moreover, to sustain future research and quality, this work must be continued to ensure that the special needs community is factored into the equation in all aspects.

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Badrotul Muniroh binti Md Tarmize
Fakulti Pengajian Quran dan Sunnah,
Universiti Sains Islam Malaysia
71800 Nilai, Negeri Sembilan
Email: munirohtarmize@gmail.com

Nurul Asiah Fasehah binti Muhamad
Fakulti Pengajian Quran dan Sunnah,
Universiti Sains Islam Malaysia,
71800 Nilai, Negeri Sembilan
Email: nurulasiahphaseh@usim.edu.my

Syed Najihuddin bin Syed Hassan (Corresponding author)
Fakulti Pengajian Quran dan Sunnah,
Universiti Sains Islam Malaysia
71800 Nilai, Negeri Sembilan
Email: syednajihuddin@usim.edu.my