Adoption of Knowledge Transfer tools by Occupational Therapists- Case of Special Educational Needs children in Mauritius

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Abtract: The opportunity of having equity and access in the educational system is one of the factors which determines the educational success of Special Educational Needs (SEN). Among the central educational goals of the Government of Mauritius, improving students' performance and resolving challenges experienced by SEN students appear among its priority choice. One strategy found to be helpful was optimising on the Knowledge Transfer (KT) tools adopted by the Occupational Therapists (OTs). This study aims at investigating on the adoption of the different KT tools by OTs with SEN children in Mauritius. Subsequently, the first objective was to explore the KT tools currently used by OTs in Mauritius with SEN children and the second objective was to identify the most used KT tool. A quantitative descriptive methodology was employed utilizing a semi structured questionnaire which was administered to 55 OTs around the islands. As a result, the knowledge transfer tools were categorized into 3 groups precisely devices, image based and play. The most frequently used tools were toys with a mean of 4.69 out of 5, picture with a mean of 4.16 out of 5 and laptop with a mean of 2.33. Recommendations have been suggested for further studies in rating the effectiveness of the different KT tools used which may become a guide for OTs. The insights from this study provide an eyepiece to further enhance the KT process, KT life cycle and related mechanisms through adapted tools in the field of OT. In furtherance to this, stakeholders who are involved on the KT process of OT may experience a better quality of knowledge transfer process.

Keywords: Special Educational Needs, Occupational Therapists, Knowledge Transfer Tools.

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INTRODUCTION

Education is known as the society's equalizer since it fosters both the intellectual and personal growth of a country (Singh et al., 2020). It is equally vital to understand that education policies are potent instruments to shape the trajectory of nations towards societal transformations (Alam & Mohanty, 2023). Amongst all the effective education policies, promoting equity and access is the one which is deeply connected with SEN students. To set the tone, equity and access imply acknowledging and addressing the diverse needs and circumstances of learners. Such educational mechanisms ensure that every student receives the support and resources necessary in thriving academically, socially, removing all physical, financial, cultural and social barriers that impede individuals from participating in educational opportunities. In essence, equity and access in education are intertwined concepts that strive to promote inclusivity, fairness, and equal opportunities for all students, irrespective of their socio-economic status, race, ethnicity, gender, ability, or other characteristics (Delport et al., 2020).

Regrettably, Special Education Needs (SEN) students represents the small disadvantaged segment of the population left behind and deprived of educational inclusivity, fairness and equal opportunities. In response to this challenge, the Occupational Therapist (OT) plays a catalyst role for SEN children and is regarded as one of the most important fields of practice globally (Novak and Honan, 2019). Bock and Borders (2015) highlight Occupational Therapists (OTs) as important stakeholders of the education system whose roles are to support students whose needs cannot be met solely by their teaching team. In school-based practice, OTs analyse aspects related to person, environment, occupation and recognise barriers and support which influence occupational performance and participation (Skinner et al., 2022). Subsequently, they make use of knowledge transfer tools as mediums to transfer their knowledge to SEN students thereby promoting SEN inclusiveness in mainstream schools.

Hence, this study aims at investigating the usage of knowledge transfer tools by OTs with SEN students in Mauritius. On this account, the first objective is to explore the different KT tools which are currently being used by OTs with SEN students and the second objective is to identify the KT tools the most adopted for the Mauritian context.

LITERATURE REVIEW

Special Education Needs

UNICEF published a report in 2021 estimating that approximately 240 million children worldwide have special needs (UNİCEF, 2021). Approximately

49.8 million (7.5%) children under the age of 5, 241.5 million (12.6%) children aged 5–19, and 291.3 million (11.3%) children under the age of 20 have mild to severe disabilities, according to the World Bank and Global Burden of Disease 2019 report; the majority of these children are thought to live in sub-Saharan Africa and Southeast Asia (Olusanya et al., 2022). Approximately 4.3% of the US population under the age of 18 was identified as having special needs in 2019 (United States Census Bureau, 2021). Based on data census conducted in 2022, Mauritius is observed to have 2.3% of the population under-15-year-old impaired (Statistics Mauritius, 2022). Besides, several studies have alluded to the fact that increasing statistics of SEN children globally is problematic, requiring thus effective solutions to address their challenges.

In the same vein, the European Agency for Special Needs and Inclusive Education (EASIE, 2022) defines students with SEN as those with disabilities or learning problems and who are eligible for additional educational support to meet their learning needs. They possess physical, intellectual, social, or emotional capabilities outside of what is considered normal by growth and development standards (Moraes et al., 2016). SEN students encompass a diverse spectrum of learning difficulties ranging from mild to severe which are often manifested as challenges in acquiring academic skills, such as reading, writing, comprehension, and mathematical abilities (Jylänki et al., 2022; Coates, 2011; Yılmaz & Soyer, 2018). Besides, they may also encounter obstacles in processing and retaining information, which affects their learning pace and their depth of understanding across various subjects (Pérez-Ordás et al., 2021).

Occupational Therapy

Theoretically, there is evidence that OTs play a vital role in providing a flexible and diverse support to students with Special Educational Needs (SEN) or disabilities (Landor & Perepa, 2017; Symes & Humphrey, 2018). They play a key role in enabling participation in everyday life contexts for these children (Case-Smith & O'Brien, 2015; World Federation of Occupational Therapists, 2018) and participation in meaningful activities was found to be connected to the better overall health of children with disabilities (Berg et al., 2018). Therefore, OT services include academic support, and assistance with play and leisure, social participation, self-care skills and transition (Rivera et al., 2024). Additionally, interventions provided by OTs include fostering interpersonal skills, self-awareness and self-regulation, play based learning, life skills development (Occupational Therapy Australia, 2023). Specific skill development comprises of handwriting, sitting posture or visual motor skills needed for school-specific occupations as well as self-care activities during school day (Clough, 2019; Rivera, 2020; Arendse & Hess-April, 2023; Pires da Fonseca, 2018; Kaelin, 2019;

O'Donoghue, 2021; Mostovoy-Luna, 2022; California Association of Health and Education linked professions, 2022).

Moreover, according to research evaluating school-based OT for children with SEN/disabilities, this range of conditions could include (Arbesman et al., 2013; Beck et al., 2006; Benson et al., 2016; Cahill & Lopez-Reyna, 2013; Nye & Sood, 2018; Piller &Torrez, 2019; Rosenberg et al., 2017; Spencer et al., 2006; Zingerevich, 2009): (1) Perceptual (vision, hearing) or communicative disabilities, (2) Neurological impairment, (3) Sensory challenges, (4) Physical disabilities, (5) Cognitive and executive functioning difficulties, (6) intellectual or learning disabilities.

Knowledge Management and Knowledge Transfer Process

Likewise, given the large spectrum of difficulties encountered by SEN students requiring diverse educational demands, getting the right knowledge at the right person in the right time becomes a necessity. Bermúdez et al., (2018) define Knowledge Management (KM) as a process that can help organizations find, select, disseminate, and transfer information that is important and necessary for activities such as problem-solving, dynamic learning processes, and planning and decision-making strategies. Essentially, KM provides organizations with the tools and techniques to overcome the overwhelming amount of information they encounter, thereby improving learning effectiveness and increasing their competitive advantage (Sobaih et al., 2025) which may be of great help for SEN students.

Generally, refers to an information flow of knowledge (Preuschmann et al., 2022) through a/ some channel(s) from one individual or firm to another (Abou Hashish, 2017), knowledge transfer (KT) is a critical process in KM. It involves organisational learning transits between a source to a beneficiary for achieving predetermined outcomes (Nguyen & Burgess, 2014; Hassan et al., 2017). Knowledge Management practitioners (Grant, 1996; Jang & Ko, 2014; Leibowitz, 2012; Liu; 2016; Nonaka &Takeuchi, 1994) concur that for knowledge to have an organisational impact, it must be transferred or shared which applies to SEN students. SEN students display various difficulties which requires the intervention of OT. Following evaluations, OT interventions require transferring specific knowledge to the SEN students according to their needs and have many implications on practices that include the exchange of individuals' experiences and work-related knowledge (Tassabehji et al., 2019) from the OT to the SEN students which results in SEN students acquiring knowledge (Grothe & Marke, 2012) which helps them in learning.

Knowledge Transfer Tools

KT tools allow sharing of knowledge (Mazorodze and Buckley, 2020) and have substantial influence on in the KT process. Needless to say, no single tool or implementation strategy is effective in all contexts or with all populations, thus making situational evaluations of KT processes necessary (Siron et al., 2015). Different artifacts may be considered separately as efficient tools to solve several difficulties in bits and pieces. Yet, it entails taking cognizance that there some other artifacts fulfil the requirements of solving same difficulties altogether. Thus, the use of tool in everyday life requires the flexible adaptation of knowledge (Bechtel et al., 2013). In this study, 29 KT tools used by OTs in Mauritius were explored as listed below in Table 1:

Table 1: KT tools used with SEN students (Authors' own compilation)

SN	KT Tools	Literature	References
		Devices	
1	Smart phone	Research states that smart phone usage can improve child development, develop creative thinking, develop individual problem-solving skills, and provide greater opportunities early.	Mustafaoglu et al., (2018) Chang et al., (2019)
2	Tablet/iPad	Tablet devices can even reduce students' cognitive load and allow retaining information in an easier way. In a study carried out with eighty-nine participants, the majority of clinicians (61.8%) reported use of a tablet, followed by a smartphone (33.7%), laptop (3.4%), and desktop (1.1%) when asked which app-based device is utilised most in Occupational therapy practice.	Haßler et al., (2016) Lee et al., (2021) Davis-Cheshire et al., (2020)
3	Computer	The use of the computer multiplies the text processing capabilities of children with writing difficulties, through a "word processor", stimulating their motor skills.	Merbler et al., (1999) Liman et al., (2015)
4	Laptop	A laptop compensates for their organizational and memory difficulties as students emphasize their work and their notes.	Drigas et al., (2014)
		Image Based	
5	Pictures	Utilization of a flash card (picture) can encourage language development, expand children's vocabulary, and convert reading activities on flash cards into regular activities. Pictures can help children with ASD better integrate sensory and cognitive experiences and facilitate behavioural changes. Picture Exchange Communication System intervention yielded positive outcomes in promoting functional communication and has positive influence on teaching requesting behaviours in Autism Spectrum Disorders (ASD).	Madyawati (2016) Schweizer et al., (2019) Flippin et al., (2010) Preston & Carter, (2009) Angermeier et al., (2008) Beck et al., (2008) Ganz et al., (2008) Schepis et al., (1998) Schlosser et al., (2009); Schlosser & Wendt

			(2008)
6	Drawing	Drawing or painting allows students to express themselves and communicate in an indirect way with others. Creative arts activities (including drawing) have been shown to have positive effects on the performance skills of children with ASD.	Schweizer et al., (2019) Bharathi et al., (2019) Brancatisano et al., (2020) Corbett et al., (2011) Schweizer et al., (2019)
7	Painting	Through painting, children develop crucial skills such as fine motor coordination, spatial awareness, and emotional expression. It fosters confidence, resilience, and a sense of accomplishment as they see their ideas come to life on canvas or paper.	Hoffmann et al., (2021) Walshe et al., (2020)
8	Graph	Graphs are commonly used to depict mathematical functions, display data from social and natural sciences, and specify scientific theories in textbooks and other print media in and out of the classroom.	Kaput (1987) Lewandowsky & Behrens (1999) Mayer (1993)
9	Photography	Therapeutic photography has been described as 'the structured, guided, engagement with the creative intervention of photography and participants found the experience to be empowering because of peer support, enhanced therapeutic relationships, a sense of achievement, a feeling of connectedness and a chance to rebuild positive identities.	Gibson (2018a, b) Tew et al., (2012) Buchan (2020)
10	Infographic	Infographics are promising, powerful and effective tool for presenting data, explaining concepts, simplifying presentations, mapping relationships, displaying trends, and providing basic insights.	Ozdamli et al., (2016) Ibrahim & Maharaj, (2019) Basco (2020)
11	Comics and Cartoons	Comics improve both mental processes as indispensable elements of the cognitive field, and aesthetic pleasure in students as an important element of the emotional field.	Toh et al., (2016)
12	Graphic Novels	The use of graphic novels has been gaining popularity in educational circles for their ability to help visual learners to motivate reluctant and struggling readers, to develop higher order thinking skills, to address students having different learning styles and to provide rich context for increasing comprehension of the reading texts.	Brozo et al., (2013) Murakami & Bryce, (2009) Schwarz (2002) Miller (2005) Seelow (2010) Brenna (2013)
13	Leaflet	Leaflets are very effective in conveying concise messages. Education using leaflets had an effect on adolescents' mental health literacy. In the survey research process, leaflets were distributed to each of these students which they could read and consult repeatedly at home.	Supardi et al., *(*2002) Simamora (2009) Lestari et al., (2021) Wahyuni et al., (2022)
14	Traditionally printed books	Based on research result of Fitriah, textbook containing local wisdom confirmed to improve	Fitriah (2019)

		student learning outcomes.	
15	Manual	As practice tool, manuals contribute to training and implementation as well as guiding practitioners to use creatively and with care.	Castro et al., (2004) Chambless & Ollendick (2000) Galinsky et al., (2012)
16	Guideline	Guidelines provide practical tips and information that anyone can use to help kids grow physically, intellectually and emotionally.	Colorado Early Learning & Development Guidelines (2025)
17	Poster	Posters facilitate the learner to connect learning through visual representation and textbook reading, lectures, and conventional homework duties.	Manarin (2016)
18	Presentation	Presentations assess students' ability to prepare and display knowledge, while improving upon their communication skills and the chances of interactions with others are high.	Levin & Topping (2006)
19	Video	YouTube can help students to improve their speaking skill, especially in increasing their knowledge about vocabulary, grammar, and pronunciation in English through the videos that are provided in it.	Riswandi (2016)
20	Tutorial	While the primary purpose of tutorials is often academic improvement, recent studies suggest additional non-academic benefits, such as improved social skills, reduced academic stress, and enhanced emotional resilience.	Baker et al., (2010) Cheung & Slavin (2012)
21	Magazine	Print-based media such as magazines can encourage analogous authoring behavior.	Fisch (2004)
Play			
22	Pretend Play	Pretend play with peers increases the ability to embed learning into socially relevant experiences, set the occasion for having social and communicative interactions with playmates and increases the likelihood of embedded learning in natural and inclusive settings.	McConnell (2002)
23	Drama	Creative drama is an education method designed to achieve specified cognitive, affective, and psychomotor goals and it supports teaching by providing the closest experience to reality or, in other words, by doing and living, with no age or subject limitations.	Arveklev et al., (2015) Tok & Cerit (2021) Akdemir & Karakus (2016) Uzunhasanoglu & Ozkan (2022)
24	Storytelling	Oral storytelling is a powerful tool for teaching and learning as it engages the students' mental imagery and imagination of the story. It enables students to connect the story to their own lives so that they understand human behaviour.	Dujmović (2006)
25	Social Stories	Social stories as a method of teaching can facilitate the understanding of social contexts that	Delano & Snell (2006) Kokina & Kern (2010)

		a child might find difficult to interpret. Previous studies have shown that social stories can improve understanding social situations, inferring perspectives of others, and demonstrating appropriate behaviour.	Scattone (2007)
26	Music	The Cochrane Collection reviews of randomized clinical trials (RCT) showed evidence about the positive effect of Music Therapy on ASD and emphasized about the possibility of Music Therapy to increase social adaptation skills in children with ASD and to promoting the quality of parent-child relationships.	Yinger & Gooding, (2014) Gold et al., (2006), Geretsegger et al., (2014) Ghasemtabar et al., (2015)
27	Songs	Songs can improve young learners listening, pronunciation and speaking skills as well as their grammar. Songs do not only offer language practice opportunities through repetition but also by developing listening skills, language association and assimilation skills, and phonological skills and provide an easy-going learning atmosphere.	Al-Smadi (2020) Kumar et al., *(*2022) Afriyuninda & Oktaviani (2021)
28	Toys	Toys can be used to help improve a child's motor, cognitive, sensory processing, communication, and play skills with the goal of enhancing their development and minimize the potential for developmental delay. They can be an engaging and motivating solution to the current limitations of physical and neuro rehabilitation and may serve as an easily available, low-cost, fun, and functional option for children with special needs. A systematic study of play interventions conducted for special needs children shows the effective use of toy play in learning and has specific commercial value to let children stimulate their creativity and cultivate their interest in art through sensory experience in entertainment and to position the point of education and fun.	Gadgil1 & Akulwar (2019) Malone & Langone (1999) Cheong (2020)
29	Games	Organised games usually require mental and/or physical stimulation and, in many cases, help the user acquire skills. Several studies have demonstrated a significant increase in motivation, attraction and interest of students of all ages in the learning process using game-based learning.	Ge & Ifenthaler, (2018) Hussein et al., (2019) Hwa (2018) Khan et al., (2017)

METHODOLOGY

Research Approach and Design

This research has employed a quantitative descriptive approach to evaluate the adoption of knowledge transfer tools by OTs with SEN in Mauritius. Descriptive research is defined as a method that describes the characteristics of the population or phenomenon that is being studied (Kothari, 2019). This methodology facilitates a systematic examination of variables using statistical tools without generalizing (Petrovic et al., 2017). It enabled objective data collection and statistical analysis, yielding insights from different OTs around the island regarding the use of KT tools with SEN children.

Participants

Sampling simply denotes the practice of getting information about a complete population by looking at barely a segment of it (Kothari, 2011). Purposive sampling, which is preferred, as Mikecz (2012) underlines, mostly by researchers who want to trace a process by interviewing a pre-defined and visible set of elites selected based on specific criteria, and necessitates researchers to access specific interviewees (Tansey, 2007). The population for this study comprised of OTs of Mauritius island. Using purposive sampling, individuals were chosen for inclusion in a sample based on their relevance to the research objectives. Inclusion criteria for this study encompassed OTs working in Mauritius and having more than 1 year of experience with SEN children who are willing to disclose their learning experiences. Exclusion criteria comprised of all the OTs who are not registered by the Allied Health Professional Council (AHPC) of Mauritius and who are not willing to disclose their clinical learning experiences. The target sample of the study selected reached to 63 participants. Out of 63 participants, 8 participants refused to be part of the survey. The demographic profile of the 55 participants is detailed as follows:

Table 2: Demographic profile of Occupational Therapists (n = 55)

Variables	*Subscales*	*Frequency*	*Percentage*
Number of years of service as Occupational Therapist	At most 5	2	3.6
	6 – 10	30	**54.6**
	11 – 15	22	40.0
	More than 15	1	1.8
Working experience in a paediatric setting	Yes	100	**100.0**
	No	0	0.0
Place(s) of work*	Public sector	25	45.5
	Private practice	38	**69.1**
	NGOs	31	56.4
	Other	1	1.8
Membership in the Occupational Therapists Association	Yes	26	47.3
	No	29	**52.7**
IT proficiency level	Novice	1	1.8
	Intermediate	48	**87.3**

	Advanced	6	10.9

* Multiple-response question

In Table 2 above, it is observed most OTs who constituted more than half of the sample (54.6%) have been practising for 6-10 years in their field, while 40.0% of them have been doing so for 11-15 years. Besides the fact that all OTs have a working experience in a paediatric setting, 45.5% have worked in the public sector, with 69.1% having their own private practice. 56.4% of them asserted that they have also being working for NGOs. It is to be noted that, for this question, OTs could have been working in more than one place at the same time, hence the total percentage exceeding 100.0%. While 47.3% of OTs were members of the Occupational Therapists Association, 87.3% of them were intermediate IT users, whereas 10.9% claimed that they were advanced users.

Instrument

A Likert-scale questionnaire was the primary tool for data collection, incorporating structured indicators for each variable. The questionnaire used comprised of two sections. The first section gathered respondents' demographic information and the second one covered all the KT tools. All items were measured using a 5-point Likert scale based on the frequency OTs used the KT tools with SEN children in their Occupational Therapy sessions, ranging from 1 (rarely) to 5 (always). A pilot testing was carried out with 10 OTs following which amendments were made to the questionnaire.

Data Testing

"The failure to assess the reliability and validity of the conclusions, may lead to the research results being questioned or even rejected" (Parveen & Showkat, 2017), even more so if the sample size is relatively small. In this study, the sample was of size 55, meaning that it was imperative to test the data collected by questionnaire for internal consistency and construct validity.

Reliability (Internal Consistency)

"Reliability refers to the extent to which the items measuring a construct exhibit internal consistency" (Wiener et al., 2017). A measure of reliability that is most often used when an instrument contains groups of Likert-type statements is Cronbach's Alpha (Laerd Statistics, 2018a). Thus, the responses to the sets of statements measuring Tools for Knowledge Transfer (broken down into three subsets) were tested for reliability in SPSS. The results are given in Table 3 below.

Table 3: Results of reliability tests (n = 55)

	Number of items	*Cronbach Alpha Coefficient*
Tools for Knowledge Transfer		
Devices		.826
Image-based		.890
Play		.915

Across several past and recent studies, it has been concluded that reliability coefficients that truly reflect an acceptable level of internal consistency of survey data should have a minimum threshold value of 0.7 (Bujang et al., 2018), but have an upper bound of 0.95 (Nawi et al., 2020; Dabbagh et al., 2023), failing which, some items either need to be revised if $\alpha < 0.5$ (Editage Insights, 2020) or should be discarded due to redundancy if $\alpha > 0.95$ (Malhotra, 2019). The fact that all the coefficients were between 0.8 and 0.95 confirmed the internal consistency of the survey questionnaire.

Data Collection Procedures

Data collection, according to Burns and Grove (2013), is the exact, methodical collecting of information pertinent to the research questions through relevant techniques such as interviews, observations made by participants, the focus group discussions, narratives, and case studies. For the process of data collection of this study, a close ended questionnaire was piloted and amended. A sample of 63 OTs were contacted personally and requests for participation were made to them. Out of 63, 55 participants responded positively while the other 8 declined to be part of the survey. Upon verbal approval of the 55 participants, a consent form as well as the questionnaire were sent to them via email. Based on their availability, the researchers called the participants personally via WhatsApp platform where the surveys were conducted. The survey forms were administered independently to participants to minimize external influences.

Ethical Considerations

This study was conducted with the approval of the Research and Ethics Committee (REC) from the Ministry of Education, Tertiary Education, Science and Technology, Mauritius and has obtained a 'No Objection' certificate. All the participants were adult professionals discussing their professional expertise and work. Before filling out the questionnaire, each participant was provided with information sheets about the research, its goals, and expected results. All participants were informed verbally and in writing that their participation in the study was voluntary and that they could withdraw at any time. Proper verbal consent was obtained from the participants, and they were asked to sign a consent

form regarding protection of personal information and data management. Declining to participate did not involve any penalty or loss of benefits for them. Every participant could discontinue participation at any time without any penalty. Respondents were also guaranteed of anonymity and confidentiality of the information given.

Data Analysis

According to Dawit (2020), data analysis makes results more effective, allows researchers to reach conclusions, thus providing a meaningful base to making critical decisions. Data analysis was carried out using statistical software, namely IBM SPSS Statistics 26 and Microsoft Excel 2019. Descriptive techniques were used to illustrate responses in tabular form and calculate summary statistics, whereas the responses to Likert statements, the responses have been analysed by the method of weighted means (Mamalat, 2023).

FINDINGS

Tools for Knowledge Transfer

In this section, comparisons will be made in terms of frequency of use of devices, image-based tools and play tools within each type of tool.

Devices

Table 4: Devices

Device	*N*	*R*	*S*	*O*	*A*	*Mean*
Laptop	31%	27%	23%	15%	4%	**2.33**
Smartphone	38%	24%	25%	11%	2%	**2.15**
Tablet/iPad	42%	27%	16%	11%	4%	**2.07**
Computer	40%	29%	20%	7%	4%	**2.05**

N = Never; R = Rarely; S = Sometimes; O = Often; A = Always

The relatively low means (in the vicinity of 2, out of 5) in Table 4 indicate that, in general, devices were seldom used as knowledge transfer tools. Among the four devices, laptops (N/R = 58%, S = 23%, O/A = 19%, M = 2.33) were most frequently used, followed by smartphones (N/R = 62%, S = 25%, O/A = 13%, M = 2.15). Tablets/iPads (N/R = 69%, S = 16%, O/A = 15%, M = 2.07) and computers (N/R = 69%, S = 20%, O/A = 11%, M = 2.05) were even less frequently used as knowledge transfer tools by OTs.

Image-Based Knowledge Transfer Tools

Among the 17 image-based knowledge transfer tools, as shown in Table 5 below, pictures (N/R = 5%, S = 13%, O/A = 82%, M = 4.16) and drawings (N/R = 13%, S = 9%, O/A = 78%, M = 4.02) were most frequently used by OTs.

Table 5: Image-based knowledge transfer tools

Image-based tool	*N*	*R*	*S*	*O*	*A*	*Mean*
Picture	0%	5%	13%	42%	40%	**4.16**
Drawing	0%	13%	9%	42%	36%	**4.02**
Photo	4%	11%	18%	29%	38%	**3.87**
Painting	5%	13%	13%	40%	29%	**3.75**
Infographic	5%	16%	25%	29%	25%	**3.53**
Comics and cartoon	15%	11%	34%	24%	16%	**3.16**
Traditional printed book	5%	22%	42%	24%	7%	**3.05**
Video	11%	27%	28%	29%	5%	**2.91**
Poster	13%	27%	36%	13%	11%	**2.82**
Guideline	15%	25%	40%	15%	5%	**2.71**
Manual	20%	27%	37%	11%	5%	**2.55**
Leaflet	29%	29%	24%	9%	9%	**2.40**
Graphic Novel	27%	27%	34%	7%	5%	**2.36**
Tutorial	36%	25%	26%	11%	2%	**2.16**
Magazine	35%	40%	16%	7%	2%	**2.02**
Presentation	40%	38%	22%	0%	0%	**1.82**
Graph	55%	35%	4%	4%	2%	**1.64**

N = Never; R = Rarely; S = Sometimes; O = Often; A = Always

Photos (N/R = 15%, S = 18%, O/A = 67%, M = 3.87), paintings (N/R = 18%, S = 13%, O/A = 69%, M = 3.75) and infographics (N/R = 21%, S = 25%, O/A = 54%, M = 3.53) were also often used by OTs, but to a lesser extent, as compared to pictures and drawings. The choice of using comics and cartoons (N/R = 26%, S = 34%, O/A = 40%, M = 3.16), as well as traditional printed books (N/R = 27%, S = 42%, O/A = 31%, M = 3.05), varied among sampled OTs, with some using them extensively, others occasionally and others very scarcely, thus yielding weighted means that were very near the neutral point of the Likert scale.

A similar pattern in the responses was observed for OTs using videos (N/R = 38%, S = 28%, O/A = 34%, M = 2.91), posters (N/R = 40%, S = 36%, O/A = 24%, M = 2.82) guidelines (N/R = 40%, S = 40%, O/A = 20%, M = 2.71) and manuals (N/R = 47%, S = 37%, O/A = 16%, M = 2.55), but with more OTs using them rarely, thus recording sub-neutral means. OTs made use of leaflets (N/R = 58%, S = 24%, O/A = 18%, M = 2.40), graphic novels (N/R = 54%, S = 34%, O/A = 12%, M = 2.36), tutorials (N/R = 61%, S = 26%, O/A = 13%, M = 2.16) and magazines (N/R = 75%, S = 16%, O/A = 9%, M = 2.02) even more rarely, whilst the use of presentations (N/R = 78%, S = 22%, M = 1.82) and graphs (N/R

= 90%, S = 4%, O/A = 6%, M = 1.64) almost did not figure in their list of image-based knowledge transfer tools.

Play

Table 6: Play

Play	*N*	*R*	*S*	*O*	*A*	*Mean*
Toys	0%	0%	0%	31%	69%	**4.69**
Games	0%	0%	6%	36%	58%	**4.53**
Songs	5%	5%	16%	38%	36%	**3.95**
Music	5%	4%	18%	38%	35%	**3.93**
Art	0%	11%	26%	36%	27%	**3.80**
Pretend play	5%	4%	27%	40%	24%	**3.73**
Drama	16%	16%	29%	24%	15%	**3.04**
Social stories	13%	20%	36%	15%	16%	**3.02**
Storytelling	7%	31%	29%	24%	9%	**2.96**

N = Never; R = Rarely; S = Sometimes; O = Often; A = Always

Among the various forms of play tools (Table 6) for transferring knowledge to SEN children, the most frequently used by OTs were toys (O/A = 100%, M = 4.69) and games (S = 6%, O/A = 94%, M = 4.53). Figures showed that songs (N/R = 10%, S = 16%, O/A = 74%, M = 3.95), music (N/R = 9%, S = 18%, O/A = 73%, M = 3.93), art (N/R = 11%, S = 26%, O/A = 63%, M = 3.80) and pretend plays (N/R = 9%, S = 27%, O/A = 64%, M = 3.73) were also very common among play tools used by OTs. Nonetheless, it is observed that knowledge transfer tools like dramas (N/R = 32%, S = 29%, O/A = 39%, M = 3.04), social stories (N/R = 33%, S = 36%, O/A = 31%, M = 3.02) and storytelling (N/R = 38%, S = 29%, O/A = 33%, M = 2.94) were used according to the preferences of OTs, that is, either frequently, occasionally or rarely in general.

DISCUSSION

Building on prior research, knowledge transfer is defined as the movement of knowledge through a channel from one individual to another (Abou Hashish, 2017) and KT tools facilitate this process. Since SEN students comprise of a range of conditions including perceptual, communicative difficulties, neurological impairments, sensory difficulties and physical difficulties (Arbesman et al., 2013; Beck et al., 2006; Benson et al., 2016; Cahill & Lopez-Reyna, 2013; Nye & Sood, 2018; Piller & Torrez, 2019; Rosenberg et al., 2017; Spencer et al., 2006; Zingerevich, 2009), in this study, a list of 29 adopted KT tools by the OTs with SEN children in Mauritius was used for exploration.

The results based on the demographical information of OTs surveyed suggest that most of the OTs were experienced experts with a percentage of 54.6 from 6 to 10 years, 40 from 11 to 15 years and even 1.8 having more than 15 years of experience. Therefore, when interpreting the findings, one should bear in mind that these findings are provided by experienced people, considered as Community of Practice (CoP) in the OT field, having many years of experience in the domain which eventually enhances validity to the results.

When interpreting the outcomes of the survey, it was revealed that amongst the 29 KT tools, toys were rated as being the most frequently used KT tool with SEN students in Mauritius with a mean of 4.69. The usage of toy is not new in the SEN field. In alignment with a systematic study of play interventions conducted for SEN in 1999 by Malone and Lagone, it was discovered that the use of toy play was detected to be effective in learning and toy was identified as a beneficial method in the special education of young children. Another author, Cheong (2020) conducted a study in which he stated that toy stimulate the creativity and cultivate the interest of children though sensory experience in entertainment and in education which can be a reason of toy being rated as the most frequently used KT tool in Mauritius too. Further analysis of this study demonstrated that all the 55 OTs used toys in their OT sessions and about 69% of the OTs rated toys as 'Always' being used. The results of this study are consistent with previous study of Gadgill and Akulwar (2019) as the use of toys during therapy can be engaging and motivating solution to the current limitations of physical and neurorehabilitation and may serve as an easily available, low cost, fun and functional option for SEN students. Moreover, since OT interventions focus on fostering interpersonal skills, self-awareness, self-regulation, play based learning, life skills development (Occupational Therapy Australia, 2023) and skills development such as handwriting, sitting posture or visual motor skills needed for school specific occupations (Clough, 2019; Rivera, 2020; Arendse and Hess-April, 2023; Pires da Fonseca, 2018; Kaelin, 2019; O'Donoghue, 2021; Mostovoy-Luna, 2022; California Association of Health and Education linked professions, 2022), it should be acknowledged that OTs have a huge responsibility towards SEN. As a whole, an OT has a vital role in providing flexible and diverse supporting students with SEN or disabilities (Landor & Perepa, 2017; Symes & Humphrey, 2018), using toys as KT tool makes the process of transferring knowledge easier as the latter are the favourite of all children.

In addition, the second most frequently used KT tool in Mauritius by OTs is picture with a mean of 4.16. Schweizer et al., (2019) highlighted picture and visual tangible aids to be of great help to children with ASD to better integrate sensory and cognitive experiences and facilitate behavioural changes. The outcomes of this study also revealed that picture is amongst those KT tools which are used by all OTs during their OT sessions same as toys usage. The reasons of the outcomes of this study maybe in accordance with what Madyawati (2019)

stated in her study that the utilization of flashcards (pictures) can encourage language development, expand children's vocabulary and convert reading activities into regular activities which therefore encourages OTs to use them. Moreover, this also joins to the statement of the World Federation of Occupational Therapists (2016) which pinpoints that an OT should empathize on supporting the interaction between a person's abilities, the physical and social environment and school related activities to achieve meaningful participation in education. Additionally, Picture Exchange Communication System (PECS) uses pictures as a medium to achieve OT goals and it has proved to have positive influence on teaching requesting behaviours (Flippin et al., 2010; Preston & Carter, 2009; Angermeier et al., 2008; Beck et al., 2008; Flippin et al., 2010; Ganz et al., 2008; Preston & Carter, 2009; Schepis et al., 1998; Schlosser et al., 2009; Schlosser & Wendt, 2008). The findings have also unravelled 5 KT tools which were found to be used the most by OTs with SEN namely toys and pictures as stated above together with game, music and drawing. Moreover, the highest 'Always' used KT Tool were toys as mentioned above with 69%, games with 58% and the third was picture with 40%.

On the other hand, the 5 least used KT tools were Tablet/iPad, Computer, Magazine, presentation and graph. Digging further in this study, it can be deducted that all the KT tools found under devices have a mean value below 2 and the column of 'Never' ranged from 31 to 42% and the column of 'Always' ranged from 2 to 4%. Moreover, the mostly rated IT proficiency level was Intermediate with 87%. To summarise, an explanation for devices not being used that much is that OTs are not well verse with the updated technologies and need more training on different ways how to use these devices with SEN.

As indicated by Siron et al., (2015), there is no single tool which is effective in all contexts or with all populations. This study in only a stepping stone towards a knowledge economy integrating SEN and OT in Mauritius. Since no previous literatures were available in this specific field, the researchers chose to analyse many KT tools. This study marked up the mostly used and least used KT tools with SEN in Mauritius. To be able to provide better interventions to SEN students, OTs need to dig further, research and write more on the best practices as a guide to the CoP of Occupational Therapists in Mauritius.

CONCLUSION

On close analysis, this study attempted to provide a comprehensive review of on the usage of KT tools by OTs with SEN in Mauritius. Toys was observed to rank as the most frequently used tools. Based on the results obtained, toys can indeed be considered as a pedagogical tool in KT to manage stress during the learning process. However, it was also noted that further studies need to be

undertaken on the different emerging tools and related ways on how to facilitate SEN student academic pathway towards success and achievements. The findings have addressed significant gaps in literature by identifying the mostly used KT tools in Mauritius. Nevertheless, this study has not considered several other digital tools including Artificial Intelligence for KT in the OT field. Another limitation of this research is based on the population in Mauritius for OT which was very small although 87% of the registered OTs responded in this survey. It is worthy to note that some other OTs were not included in this survey due to the fact that they were not registered with AHPC. To reinforce the decision in recommending KT tools for a specific disability, further detailed investigations in the usage of KT tools could be undertaken. In addition, future study could integrate other stakeholders particularly Speech and Language Therapists, Physiotherapists, Educational Psychologists, parents, support teachers, registered SEN Carer, school head master to reform inclusiveness of SEN children in the education system in Mauritius. The insights from this study are an eye-opener to boost the KT process, KT life cycle and related mechanisms through adapted tools in the field of OT, which shall have substantial influence on stakeholders in experiencing a better quality of knowledge transfer process with reduced stress.

Data Availability Statement

All data are available and can be requested from the corresponding author.

Conflicts of Interest

The authors declare no conflicts of interest.

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