

# ICT-Supported Learning and Its Benefits for the Inclusion of People with Special Needs

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#### Abstract

Managing and determining the significant aspects of ICT supports regarding the beneficial factors and its resources in the present context focus on educational needs. The implanting of new resources and its strategic resources regarding digital sections have been developed through the basic requirements of the educational aspects and managerial resources. This study will elaborate on the optimum factors of the reported study, the aim and objectives of the study, and methodological aspects of the current education sector. The methodological aspects of this study analyze the interpretivism research philosophy, the qualitative research approach, research designs, and the inclusion and exclusion of the research criteria in this aspect. Apart from these, this study will define the importance of communication and technological roles, the learning developments, and its resources in the present terms of the education system.

Effective factors of ICT have also been explained in this study for specially-baled persons. This study elaborates on the essential requirements of the present educational models and their resources in these educational terms. The factors of the ICT segments help the physically hampered persons and develop relevant assistive technological aspects.

#### Keywords

ICT, Occupational health theories

# INTRODUCTION

#### **Background of the Study**

The implementation of the educational process and its resources regarding "information and communication technologies or ICT" provides potential needs to physically disabled persons. The capitalist's resources and their benefits towards regent opportunities develop through basic fundamental sources and their educational purpose [3]. ICT demands and resources it values through the recommended sources and offerings in providing authentic education to disabled persons. This factor has proposed substantial requirements to develop through substantial resources in terms of organizing these information sources are necessary. Occupational health theories provide basic requirements for physically impaired persons.

#### **Aim and Objectives**

**Aim,** enabling new resources to help the physically impaired person to only factors and resources regarding the present pedagogical value is essential in the *education* system.

#### **Objectives**

The objectives of this research study are developed through organizing the valuable resources and functioning segments is essential. The objectives of this study are-

 To determine the positive effects of assistive resources in education and their technical values for disabled persons.

- To introduce the effectiveness of ICT to the outer world that will help people with dyslexia.
- To develop skills of technology and reinforcement learning skills for physically impaired persons for optimum education.

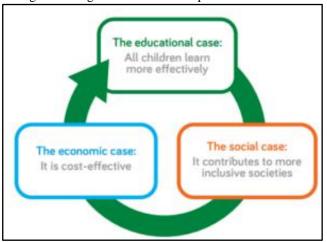
# Significance of the Study

The ICT-formulated segments and their resources can be considered beneficial factors in terms of recent methodological phenomena. This, ICT factor proposes an optimum technical resource for disabled persons by implementing new audio-visual aids. Implementing new audio-visual aids helps these persons to communicate more freely in alternative argumentative resources. Assistive designs and their resources need to be followed through basic requirements of communication difficulties and their skills [2]. Organizing new tools can be considered as an essential factor for this technological aspect and new resources will deliver through mitigating issues on basic requirements. Determination of new technical resources might produce new strategic resources in the current context of impaired resources. The educational requirements of improving engagement develop through optimum knowledge retention and its opportunities in the present system.

Implementing ICT factors will help in organizing enhanced communicative models, optimum cost-effectiveness, and paperless communicative sources for disabled persons. Apart from this, ICT developments reported to help in optimum teaching methods for teachers, and this help to develop and improved adaptability through



technical resources. This factor is essential to manage through fostering connections in the present terms.



**Figure 1:** Inclusive educator for physically impaired children [1]

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## **METHODS**

## Research philosophy

Organizing new resources for this research study and its effectiveness of research study is effective in the ICT system. The chosen research philosophy for this study is "Interpretivism research philosophy". This philosophy is effective to understand the principles of optimal resources in the present context. The phenomenon of the present context focuses on the developmental factors of ICT management for especially-baled persons.

## Research approach

The research approach is a research method that helps to establish proper strategies in which the study will collect data and helps to analyze it in a detailed manner. There are 2 types of research approaches, among them; the *inductive* method helps guide the objectives of the data in a specific evaluating way to conduct a meaningful understanding of the study [4]. The inductive research approach has been adopted in this study to collect the data in a systematic way to evaluate the understanding of the study.

# Research design

Research design helps to design the collected data in numerical order or helps to gather data serially to conduct proper study materials for analyzing the collected data. Research design helps to conduct the data in systematic ways with logical elements that help to interpret the data positively [5]. The *descriptive* research design method has been taken in this study to conduct a proper outcome of the study through analyzing the collected data in a systematic way to describe the study or the phenomenon.

#### **Inclusion and exclusion criteria**

The *inclusion and exclusion criteria* method helps to gather appropriate data and helps to filter the collected data with proper strategies to conduct better outcomes of the study [6]. Through the inclusion criteria, all the collected data in this study has been evaluated from the journals that are published after 2018. Apart from this, this method, it has collected data which are in only English and the study has collected authentic, relevant, and reliable data from journals, newspaper articles, websites, and other online resources. Through the exclusion criteria, this study has excluded all gathered data which are taken from a doctoral dissertation, advertisement papers, conference papers, and many others to conduct proper research study materials for analysis.

## Data collection technique

There are different data collection methods, but among them, the *primary quantitative* data collection method helps to collect data by assessing questions using surveys, polls questionnaires and some other ways [7]. The quantitative data collection method has been adopted in this study to conduct a measurable number of data in a systematic way. Apart from this, this method helps to gain more knowledge about the study as it collects data from the common people by questioning them about the study to clear out doubts.

#### Data analysis technique

There are different analysis methods to analyze the collected data that help to conduct a proper understanding of the study as it helps to overview the study closely. *SPSS software* is a programmed that helps to analyze quantitative complex data and it helps to understand the scientific reasons associated with the study from the collected data [8]. The SPSS data analysis method has been adopted in this study which has helped in constructing different questionnaires about the study through which the data has been collected for the study. This questionnaire helps to develop a meaningful understanding of the topic as this method helps to analyze the collected data in a statistical manner throughout the study.

#### **RESULTS**

# **Descriptive statistics**

Summarizing the containing data and presenting a brief connection among the research variables, the descriptive table is highly effective. Following the "standard deviation" values, the relationship can be identified well [9]. In this table, the "standard deviation" values are 1.296, 1.113, 1.214, 1.364, 1.006, 1.388, 1.212, and 1.248. These indicate that the data is dispersed from the mean and keeps a pragmatic relationship among the research variables.



Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation				
Age	51	0	3	1.45	.945				
Gender	51	0	2	.51	.644				
Information and Communication Technologies (ICT) can help children with special needs	51	0	4	3.00	1.296				
ICT supports the inclusion in the education of children with disabilities by making them able to resolve challenges	51	0	4	3.37	1.113				
Learning is accessible at any time, any place with the collaboration of ICT	51	0	4	2.92	1.214				
ICT offers new learning techniques as classroom tools are constantly evolving	51	0	4	2.69	1.364				
ICT decreases teacher paperwork and improves work-life balance	51	0	4	3.55	1.006				
Parent-teacher interaction has become improved with the help of ICT	51	0	4	2.41	1.388				
ICT develops student engagement in the learning process	51	0	4	3.18	1.212				
ICT is a great motivator for people with special needs to adopt potential skills and knowledge	51	0	4	3.04	1.248				
Valid N (listwise)	51								

Figure 2: Descriptive statistics (Source: SPSS)

#### Frequency analysis

						Statistic	s				
		Age	Gender	Information and Communicati on Technologies (ICT) can help children with special needs	ICT supports the inclusion in the education of children with disabilities by making them able to resolve challenges	Learning is accessible at any time, any place with the collaboration of ICT	ICT offers new learning techniques as classroom tools are constantly evolving	ICT decreases teacher paperwork and improves work-life balance	Parent- teacher interaction has become improved with the help of ICT	ICT develops student engagement in the learning process	ICT is a great motivator for people with special needs to adopt potential skills and knowledge
N	Valid	51	51	51	51	51	51	51	51	51	51
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		1.45	.51	3.00	3.37	2.92	2.69	3.55	2.41	3.18	3.04
Mediar	n	1.00	.00	3.00	4.00	3.00	3.00	4.00	3.00	4.00	4.00
Mode		2	0	4	4	4	4	4	3	4	4
Std. De	eviation	.945	.644	1.296	1.113	1.214	1.364	1.006	1.388	1.212	1.248
Varian	0.0	.893	.415	1.680	1.238	1.474	1.860	1.013	1.927	1.468	1.558
Minimu	um	0	0	0	0	0	0	0	0	0	0
Maxim	um	3	2	4	4	4	4	4	4	4	4
Sum		74	26	153	172	149	137	181	123	162	155

Figure 3: Frequency analysis (Source: SPSS)

The statistic table shows the distribution of different observations based on the alternative research variables. Based on the table, the "mean values" of the variables are 1.45, 0.63, 3.00, 3.37, 2.92, 2.69, 3.55, 2.41, 3.18, and 3.04. It highlights that the calculation of the diving sum of the data is accurate [10]. In addition to that, the research variables' "median values" are 1, 1, 3, 4, 3, 3, 4, 3, 4, and 4. This indicates that the frequency between the research variables is perfect to interpret in further study.

#### **Correlation analysis**

In order to measure the linear connection among contrasting research variables, the "correlation analysis" table is valuable. This table primarily depends on the "P-value" and tells the value is acceptable in the case of 1 which is greater than 0 (1>0) [11]. There are maximum numerical numbers higher than 0, but a few numerical data on this above "correlation analysis" table remain less than 1. This does not show there is a weak connection between research variables.

				Correla	tions						
		Age	Gender	Information and Communicati on Technologies (ICT) can help children with special needs	ICT supports the inclusion in the education of children with disabilities by making them able to resolve challenges	Learning is accessible at any time, any place with the collaboration of ICT	ICT offers new learning techniques as classroom tools are constantly evolving	ICT decreases teacher paperwork and improves work-life balance	Parent- teacher interaction has become improved with the help of ICT	ICT develops student engagement in the learning process	ICT is a great motivator for people with special needs to adopt potential skills and knowledge
Age	Pearson Correlation	1	.831	.882	.712	.868	.873	.639	.908	.820	.867
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	51	51	51	51	51	51	51	51	51	51
Gender	Pearson Correlation	.831	- 1	.623	.455	.692	.687	.362	.722"	.549	.621
	Sig. (2-tailed)	.000		.000	.001	.000	.000	.009	.000	.000	.000
	N	51	51	51	51	51	51	51	51	51	51
Information and Communication	Pearson Correlation	.882	.623	1	.887	.953	.939	.874	.923	.955	.976
Technologies (ICT) can help children with special	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000	.000
needs	N	51	51	51	51	51	51	51	51	51	51
ICT supports the inclusion in the education	Pearson Correlation	.712	.455	.887	1	.836	.869	.939	.805	.929	.853
of children with disabilities by making	Sig. (2-tailed)	.000	.001	.000		.000	.000	.000	.000	.000	.000
them able to resolve challenges	N	51	51	51	51	51	51	51	51	51	51
Learning is accessible at	Pearson Correlation	.868	.692	.953	.836	1	.951	822"	.933	.921	.965
any time, any place with the collaboration of ICT	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000
	N	51	51	51	51	51	51	51	51	51	51
ICT offers new learning	Pearson Correlation	.873	.687	.939	.869	.951	1	.798	.947	.918	.935
techniques as classroom tools are constantly	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000
evolving	N	51	51	51	51	51	51	51	51	51	51
ICT decreases teacher	Pearson Correlation	.639	.362	.874	.939	.822	.798	1	.737	.887	.842
paperwork and improves work-life balance	Sig. (2-tailed)	.000	.009	.000	.000	.000	.000		.000	.000	.000
The second of	N	51	51	51	51	51	51	51	51	51	51
Parent-teacher interaction	Pearson Correlation	.908	.722	.923	.805	.933	.947	.737	1	.907	.925
has become improved with the help of ICT	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000
	N	51	51	51	51	51	51	51	51	51	51
ICT develops student	Pearson Correlation	.820"	.549	.955	.929	.921	.918	.887"	.907"	1	.947
engagement in the learning process	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000
yp	N	51	51	51	51	51	51	51	51	51	51
ICT is a great motivator	Pearson Correlation	.867**	.621"	.976"	.853"	.965	.935"	.842"	.925"	.947"	1
for people with special needs to adopt potential	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	
skills and knowledge	N	51	51	51	51	51	51	51	51	51	51

Figure 4: Correlation analysis (Source: SPSS)

# Pie chart analysis

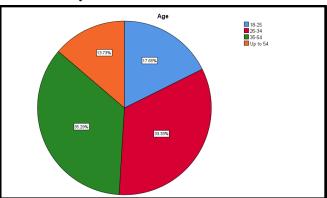
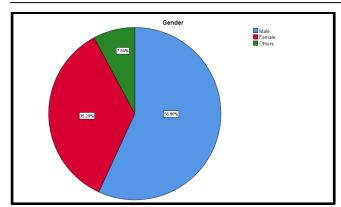


Figure 5: Age group (Source: SPSS)

In the survey process, among the four age groups, the maximum ratio of people of 35.29% belonged to the "35-54" age group. It indicates the "35-54" age group people had the greater knowledge regarding ICT and its effectiveness. Besides this, 33.33% of people belonged to the "26-34" age group whereas the "18-25" age group contains 17.65%, and the lowest of people 13.73% belonged to the "up to 54" age group.

According to the above pie chart, the maximum ratio of people of 56.86% belonged to the "male group". Thus, the "female group" contains 35.29%, and the "other gender group" contains 7.84%. It indicated males had more knowledge regarding the ICT learning process compared to other genders.





**Figure 6:** Gender group (Source: SPSS)

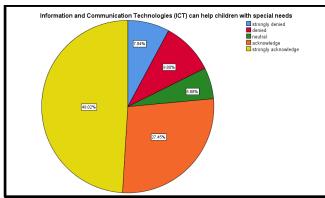
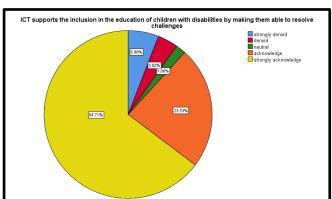


Figure 7: Information and Communication Technologies (ICT) can help children with special needs (Source: SPSS)

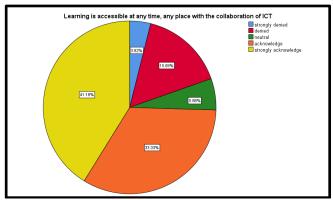
Based on the above pie chart, 49.02% of the candidates "strongly acknowledged" and 27.45% of candidates acknowledged this statement. It defined the majority of the population as determined that ICT can help children with special needs. Although 5.88% of the candidate had no idea whereas 9.80% of candidates denied and 7.84% of candidates strongly denied it as they believe ICT does bonnet contribute to special needs.



**Figure 8:** ICT supports the inclusion in the education of children with disabilities by making them able to resolve challenges (Source: SPSS)

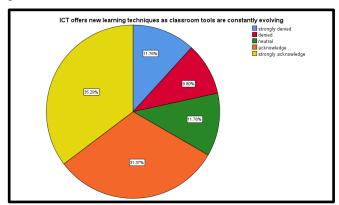
Regarding ICT's helpfulness in resolving challenges for the disabled, 64.71% of the people strongly acknowledged and 23.53% of the people acknowledged it. Due to a lack of greater knowledge, 1.96% of the people remained silent.

Thus, 3.92% of the people denied and 5.88% of the people strongly denied it as they did not experience ICT's resolving capability.



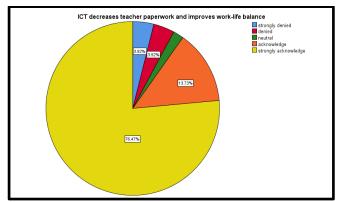
**Figure 9:** Learning is accessible at any time, any place with the collaboration of ICT (Source: SPSS)

ICT's anytime accessibility has been strongly acknowledged by 41.18% of respondents and 33.33% of respondents acknowledged it. Although 5.88% of respondents do not use ICT in the learning process for people with special needs so they remained neutral. Moreover, this result signified that with the collaboration of ICT, the learning process can be accessible at any time, and at any place.



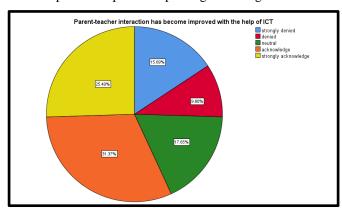
**Figure 10:** ICT offers new learning techniques as classroom tools are constantly evolving (Source: SPSS)

Following the above chart, in the survey, the majority of 35.29% of the population strongly acknowledged as well as 31.37% of the population acknowledged this statement. 11.76% of the population remained neutral as they had not enough understanding regarding this. It has been identified that a maximum number of people experience and believe that ICT is able to offer new learning techniques that increased the eagerness of learning among disabled people.



**Figure 11:** ICT decreases teacher paperwork and improves work-life balance (Source: SPSS)

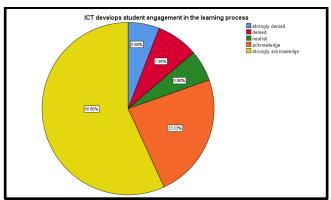
In this statement, the majority of 76.47% of participants strongly acknowledged and 13.73% of the participants acknowledged. It has been identified that a maximum number of people experience how ICT is capable of improving work-life balance process by reducing teacher paperwork. It signified that ICT assists in decreasing teacher paperwork and also proved helpful in improving balancing work-life.



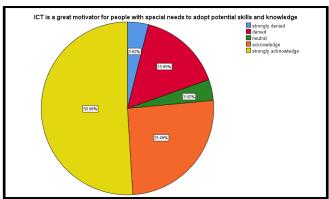
**Figure 12:** Parent-teacher interaction has become improved with the help of ICT (Source: SPSS)

Regarding the improvement of parent-teacher interaction, 25.49% of the people strongly acknowledged and 31.37% of the people acknowledged it. Due to a lack of greater knowledge, 17.65% of the people remained silent. Thus, 9.80% of the people denied and 15.69% of the people strongly denied it as they did not experience ICT's parent-teacher interaction capability. It has been identified that ICT is useful in improving the parent-teacher interaction process.

Following the result of the survey, it has become recognized that the maximum people of 68.86% strongly acknowledged and 23.53% acknowledged that in the disabled learning process, ICT develops student engagement. However, 5.88% of people were neutral as they had limited knowledge regarding this. Contradictory, 7.84% of people denied and 5.88% of people strongly denied as they do not experience ICT's engagement power. It ensures that ICT has the capability of increasing disabled student engagement in earning process.



**Figure 13:** ICT develops student engagement in the learning process (Source: SPSS)



**Figure 14:** ICT is a great motivator for people with special needs to adopt potential skills and knowledge (Source: SPSS)

In the statement of ICT's motivational power, the maximum population of 50.98% becomes strongly acknowledged and 25.49% acknowledged. It proved that ICT is a great motivator and able to help in developing knowledge and skills, especially for people who are disabled and required special needs.

# Regression analysis

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate						
1	.984ª	.969	.964	.245						
a. Predictors: (Constant), ICT is a great motivator for people with special needs to adopt potential skills and knowledge, ICT decreases teacher paperwork and improves work-life balance, Parent-teacher interaction has become improved with the help of ICT, ICT supports the inclusion in the education of children with disabilities by making them able to resolve challenges, ICT offers new learning techniques as classroom tools are constantly evolving, Learning is accessible at any time, any place with the collaboration of ICT, ICT develops student engagement										

Figure 15: Model summary analysis (Source: SPSS)

The table of "model summary" highlights the status of interrelationships among the research variables. The "R-square" and "R-value" are the main columns to describe the viability of the existing variables [12]. In the above table, the "R-square" and "R-value" becomes *0.954* and *0.977* respectively. It indicated that there is a pragmatic relationship among the research variables.



ANOVA <sup>a</sup>									
Sum of     Model     Squares     df     Mean Square     F     Signature									
1	Regression	81.411	7	11.630	193.126	.000b			
	Residual	2.589	43	.060					
	Total	84.000	50						
cl b. P a in th d te a	hildren with spe redictors: (Cons dopt potential st mproves work-lif ne help of ICT, IC isabilities by ma echniques as cla	stant), ICT is a greatills and knowledge balance, Parent- T supports the inviking them to the inviking them able to associate the second tools are the with the collabo	at motivator f ge, ICT decre teacher inte clusion in the resolve chal constantly e	for people with spaces teacher pace raction has beco e education of challenges, ICT offer volving, Learning	pecial needs perwork and me improved ildren with s new learni i is accessib	to d with ng le at			

Figure 16: ANOVA analysis (Source: SPSS)

Both "random factors" and "systematic factors" are generated in the table of ANOVA and it shows the authenticity of the data. According to the rule, if the "significant value" becomes <0.001, the collected data can be accepted [13]. In the above table, the "significant value" has become 0 which is less than 0.001 (0<0.001). It showed all the collected data from the survey process are valid.

	Coefficients <sup>a</sup>										
		Unstandardize	d Coefficients	Standardized Coefficients							
Model		В	Std. Error	Beta	t	Sig.					
1	(Constant)	313	.140		-2.239	.030					
	ICT supports the inclusion in the education of children with disabilities by making them able to resolve challenges	029	.145	025	199	.843					
	Learning is accessible at any time, any place with the collaboration of ICT	017	.138	016	124	.902					
	ICT offers new learning techniques as classroom tools are constantly evolving	.112	.118	.118	.954	.345					
	ICT decreases teacher paperwork and improves work-life balance	.226	.124	.176	1.831	.074					
	Parent-teacher interaction has become improved with the help of ICT	.096	.094	.103	1.019	.314					
	ICT develops student engagement in the learning process	.111	.139	.104	.797	.430					
	ICT is a great motivator for people with special needs to adopt potential skills and knowledge	.582	.138	.561	4.229	.000					
	ependent Variable: Informatio pecial needs	n and Communi	cation Technolo	gies (ICT) can hel	p children w	ith					

Figure 17: Coefficient table (Source: SPSS)

The coefficient table describes the size and direction of the relationship and according to this table; the research variables have become valid and authentic. According to the rule, if the "significant value" of the coefficient table becomes less than 0.05, it is not reaming statistically significant [14]. Similarly, according to the above table, it has been identified that there is a positive connection between the research variables of this research topic.

In the case of the "Cronbach's Alpha" value becoming larger compared to "0.70 (value > 0.70)", the data is identified as valid [15]. According to the above table, "Cronbach's alpha" value becomes 0.979 which indicated there is a positive connection between the existing research variables and that all the collected data are valid and reliable.

#### Reliability and validity test



Figure 18: Reliability test (Source: SPSS)

#### DISCUSSION

# **Role of Information and Communication Technologies in special education**

Information and Communication Technologies or ICT have enough potential to establish effective education changes and provide educational opportunities for the people of the education system. Besides that, it enhances the teaching and learning process for the people in the education system and provides appropriate options and opportunities for specially-abled children. However, the implementation of the ICT process in a teacher's Continuing Professional Development or CPD programmed helps to enhance the skills of the teachers in teaching and helps to improve their teaching skills with appropriate guidance to establish a caring learning environment for the specially-able children [16]. The education sector is one of the biggest elements to implement changes in the learning process and the teacher plays a huge role in building the educational career of the students and guiding them to building a bright future.

The ICT process has been developed over time and in this digital era, the ICT process has evolved with new advanced technologies that have improved the management systems of the education sector. The quality of the education system is a very important factor as it helps to develop the growth rate of learning processes in different educational fields. The ICT programmed establishes suitable strategies that improve the quality of education and with the help of advanced technologies in this digital era, many people can learn about a lot of sectors [17]. In this digital era, the education system is constantly evolving with new changes and also with access to the global internet people can learn about a lot of factors from social media and gain knowledge about many important things in their life.

# Impact of ICT on the inclusion of disabled

ICT or Information and Communication Technology helps to increase the education levels of children with disabilities by engaging them in the education system and helping them to overcome some of the barriers of their life that cause exclusions in their life. The ICT process is developing new strategies to give educational facilities to children with physical disabilities. However, the world is evolving with new technologies and the ICT procedure has been adopted by most countries around the whole world to improve the educational system for disabled children [18]. ICT has a big and important tool in educational inclusion for



disabled children and it provides different strategies to motivate children in their education. The ICT process helps to improve the career of these children through different positive and motivational strategies to increase their interest in their educational careers.

Disabled children and students are very sensitive and they need special attention in their education to build a good career for them. Almost one billion people have some kind of disability in the 15% of the population in the world which is a huge number [19]. The learning process of disabled students also impacts their psychological growth and helps them to improve their mental state. Apart from this, the ICT process helps to establish confidence in them that helps them to recover from the anxiety and stress disorders in their lives [20]. Many of them face difficulty in learning however; this process provides special care for them to improve their learning process.

# Advantage of using ICT in enhancing the learning experience

There are many advantages of using the ICT process in enhancing the learning power of specially-able children as they need special help. The ICT process helps to provide special care for disabled children as well as it provides special attention towards their educational growth. This process helps each and every student to increase their confidence level as it provides a more personalized educational environment for them. Apart from this, through this process, every child gets effective opportunities and equality in all aspects and direction of the educational system. This process helps to develop a better educational environment in the schools to provide a healthy educational environment for disabled children [21]. This process also helps to increase the educational growth rate of specially-able children all around the whole world.

Apart from this, the ICT process establishes different strategies to build a better relationship between teachers and disabled students. This helps to establish a bridge to close the gaps between the teachers and students which will strengthen the relationship between them. Besides that, the teachers get the proper training to teach disabled students with proper care which helps to improve their educational career [22]. This changes the perceptions of the teachers and increases the knowledge about the proper ways to treat disabled students with special attention and proper care. Thus, the teacher can provide proper education for the specially-able child and increase their learning process with positivity which will also impact their psychological growth.

# Factors present in ICT to help to learn for inclusion of people with special needs

There are many factors in the ICT programmed that influences the learning process of specially-able children in the educational systems such as it provides more opportunities for the children, establishing equality in every education sector, and providing a more personal learning environment that helps improve their brain development. The

communication process of ICT helps to build a better relationship between teachers and specially-able students. Besides that, information technologies help to develop their acknowledging power in a way in which the students of special needs adapt it in an easy way. Apart from this, the ICT provides many training processes for the teachers to improve their teaching process for students with special needs and provides proper guidance regarding the treatment and handling process of these students [23]. Digital competence worldwide helps to establish better strategies that increase the educational changes in the educational systems to establish a better learning process for specially-able students.

There are some barriers to the ICT procedure such as political and normative factors, impulsive education systems in schools, decreases in the confidence level of the specially-able students and some others that negatively impact the education sectors. However, disabled students need special help in their education as they face various changes in their lives and the ICT process helps to increase the progress rate of these children in their educational sectors. Besides that, with the help of different advanced technologies, it builds interfacing designs that help to increase the educational growth rates of these students [24]. Apart from that, this provides an HCI design that helps to develop appropriate teaching principles for specially-able students. The global market share rate of ICT programmers is increasing every year and the ICT programmed in the US had a 36% market share in 2021 [25].

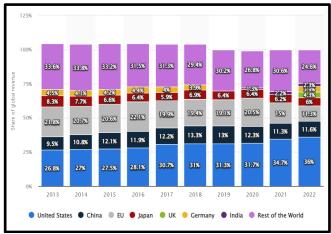


Figure 1: Global share market rate of ICT (2013 - 2022) [25]

# **CONCLUSION**

This study has focused on conducting all the necessary elements regarding the ICT programmers to increase the special needs of help for specially-able children all around the world. Besides that, the detailed discussion of the positive effects of the ICT programmers in improving the learning skills of students with special needs has been evaluated throughout the study. It has been identified that specially-able students are getting more facilities from the ICT programmed in their educational care and it also helps them improve their brain development with different strategies. However, the



barriers to ICT programmes can be identified as the language, proper teaching process and some others. It has been found that, besides these barriers, the programme not only establishes improvement in the educational careers of disabled students but also helps them in advancing their level of education.

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#### **APPENDIX**

#### **Questionnaire**

#### Section 1: Demographic Block

- 1. Age
  - a) 18-25
  - b) 26-34
  - c) 35-54
  - d) Up to 54
- 2. Gender
  - a) Male
  - b) Female
  - c) Others

#### **Section 2: Statements**

(Please rate your opinion against the attached statements based on the scale suggested below-4 = strongly acknowledge, 3 = acknowledge, 2 = neutral, 1 = denied, 0 = strongly denied)

Statements	0	1	2	3	4
3. Information and Communication Technologies (ICT) can help children with special needs	4	5	3	14	25
4. ICT supports the inclusion in the education of children with disabilities by making them able to resolve challenges.	3	2	1	12	33
5. Learning is accessible at any time, any place with the collaboration of ICT.	2	8	3	17	21
6. ICT offers new learning techniques as classroom tools are constantly evolving.	6	5	6	16	18
7. ICT decreases teacher paperwork and improves work-life balance.	2	2	1	7	39
8. Parent-teacher interaction has become improved with the help of ICT.	8	5	9	16	13
9. ICT develops student engagement in the learning process.	3	4	3	12	29
10. ICT is a great motivator for people with special needs to adopt potential skills and knowledge.	2	8	2	14	25