

ASSESSING FINE MOTOR SKILLS OF LEARNERS WITH INTELLECTUAL DISABILITIES IN HOME-BASED LEARNING

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Abstract - This research assessed the fine motor skills of learners with intellectual disabilities in home-based learning at Mandaue City Division during the School Year 2021-2022. It assessed the learners' performances and used a descriptive correlational design. This research aimed to explore the correlation between the profile of 57 children with intellectual disabilities in Mandaue City and their fine motor skills. It also included the parents' perception of the Learning Intervention Sheets (LIS). Universal sampling was used to select participants. Transmittal letters and survey questionnaires were employed, and inferential statistics analyzed the data. Learners were proficient in buttoning, unbuttoning, zipping, and unzipping, while not proficient in snapping, unsnapping, and shoe lacing. Parents found the LIS acceptable. In conclusion, students were proficient and not proficient. Researchers strongly advocate for improved Learning Intervention Sheets to enhance the fine motor skills of children with intellectual disabilities.

Keywords: Special Education, Fine Motor Skills, Home-based Learning, Descriptive Correlational Design, Mandaue City, Cebu

INTRODUCTION

In the current dynamic era and amidst the proliferation of national developments, certain privileges remain inaccessible to select children, particularly those necessitating special attention and support. However, legislative measures and provisions that underscore the rights and advantages accorded to children with special needs fortify the establishment of equitable opportunities within the educational realm. Consequently, this ensures that no students with disabilities encounter deprivation of their entitlement to an inclusive, impartial, and superior-quality education. Furthermore, it fosters the facilitation of lifelong learning prospects for this specific group.

To fully realize the goals and essence of inclusive education, the whole-of-community approach shall be adopted for the inclusion of learners with disabilities in the general education system and the community to facilitate collaborative action.

Moreover, the State recognizes the vital role of learners with disabilities in society as an integral part of national development strategies.

The Department of Education (DepEd) developed a framework termed the Basic Education Learning Continuity Plan (BELCP), which provides guidance on how the country deliver education during time of crises while ensuring the health, safety, and welfare of learners, teachers, and DepEd personnel. The DepEd set guidelines on managing the COVID-19 situation, policies on classroom assessment, working at home, and attending webinars for teachers.

Specifically, as the opening of classes run in the great school year, the DepEd adopted the BE-LCP, which permits multiple learning delivery modalities, including modular distance learning (MDL), online distance learning (ODL), TV/Radio-Based Instruction (TV/R), and Blended Learning - a combination of different distance learning modalities.



Consequently, knowing the complications of COVID-19 and the possibility of being unable to meet in person, parents settle for distance learning. The parents now become the tandem of teachers to ensure the successful delivery of instructional support for these learners. These parents prefer to have their children in modular distance learning, which can be considered homeschooling. Home education, also known as homeschooling, is an educational reform in which parents educate their children at home and in various places. Ray (2020) observed home education as one of the emerging modalities of instructional implementation today. It has also been adopted by parents who have children with disabilities. The number of children with disabilities undergoing alternative instruction at home has significantly increased since the emergence of home education (Cook et al., 2019).

In the Philippines, while there is a challenge to the provision of a structured home education program for around five million children with disabilities, Calica (2020) reported efforts of various organizations and individuals to highlight the condition of a vulnerable group of children with disabilities amid the COVID-19 pandemic. There has been a call to curb the impacts of school disruption through home-school methods such as online learning. However, such an approach would have profound implications for some parents whose skills in home education need to be further improved. It should be noted that structured home education programs for children with disabilities are being developed in the country and primarily by private institutions.

The teacher will now prepare an instructional resource that is not complicated for the parents to use without compromising the skills that specific learners need to master. However, instructional resources are lacking that solely address the assessment of fine motor skills intended for home-based learning. In this manner, the researchers view this as a gap. Through the output of this study, it can help bridge teachers' intentions with the help of parents in educating their children in home-based learning.

In this perspective, the parents become the indispensable partners of teachers in providing the instructional needs for learners with special educational needs in home-based learning. Parents play a vital role. On the other hand, it never erased the duties and obligations of teachers in delivering instructional needs to the learners. Using the different communicative platforms, the teachers exhaust these means to give instructional support. Moreover, they will also provide technical assistance to parents to ensure the success of the targeted development of these skills. From time to time, the teachers employ open and accessible communication to reach the parents on before-during and after the conduct of the instructional support.

To conclude, in this study, the researchers push to realize and fill the mentioned gap by introducing the proposed fine motor skills enhancement plan after assessing the fine motor skills of learners with intellectual disabilities in home-based learning at the identified schools in Mandaue City, Cebu, for the school year 2021-2022. In this way, it will help to master the fine motor skills of these learners with special needs. It achieved an educational milestone through the partnership of teachers and parents.

1. THEORETICAL BACKGROUND

This study is anchored on Lev Vygotsky's theory on Fine Motor Skills and the SAMR Model and also based on the following legal bases: Republic Act 10553, Magna Carta for Disabled Children- Republic Act 7727 of 2010, Article XIV Section 1 of 1987 Constitution.

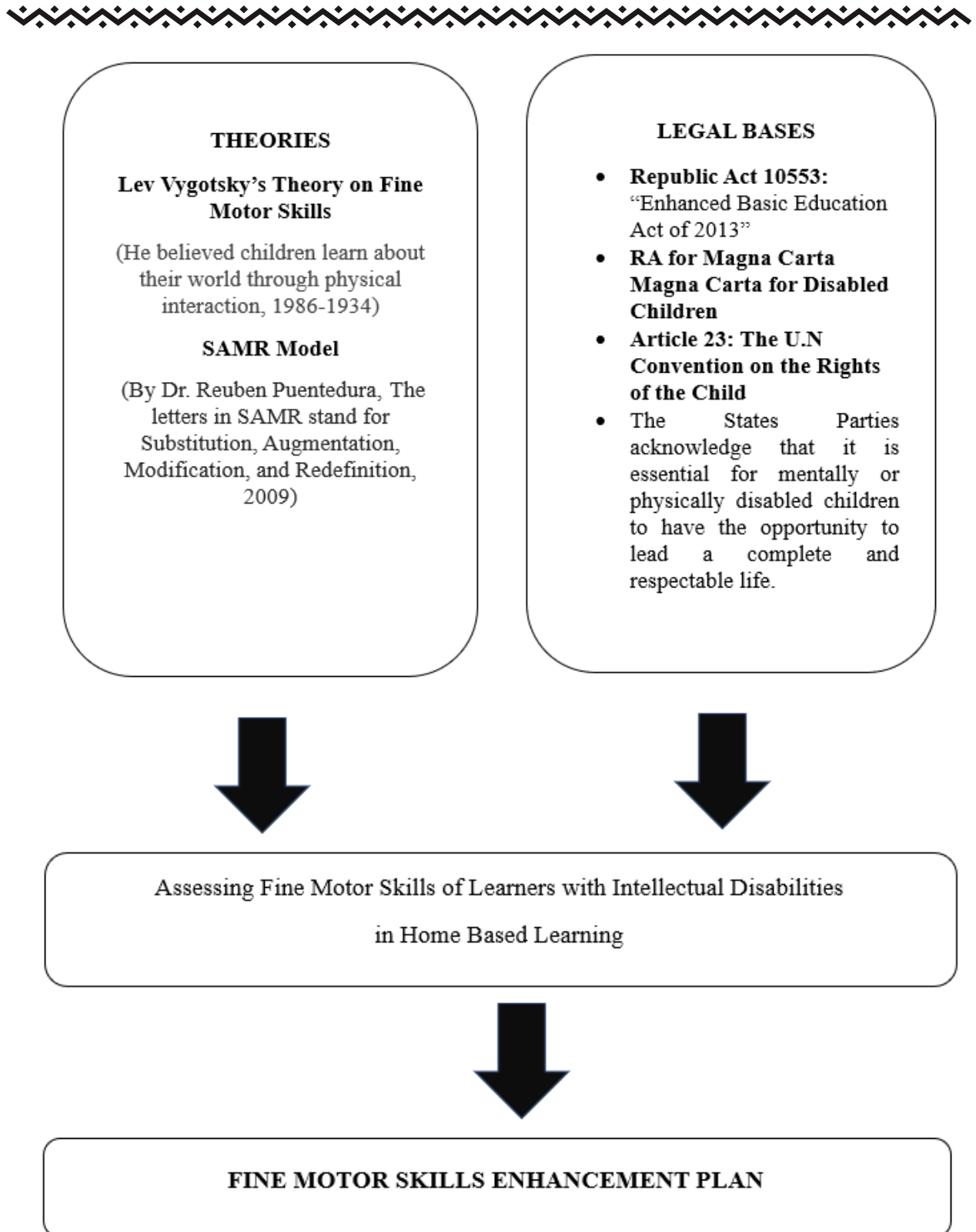


Figure 1. Theoretical Framework of the Study

Lev Vygotsky accepted children learn around their world through physical interaction. Vygotsky's sociocultural hypothesis attests that learning is a social handle in which the back of guardians, caregivers, peers, and the more extensive society and culture play a pivotal part in the advancement of higher mental work.

He was curious about how social components which a specific society regards imperative for case, traditions, convictions, abilities, and values- are passed on to unused eras. His sociocultural



hypothesis pronounces that social interaction inside the family and with learned individuals of the community is the essential implies by which children obtain practices and cognitive forms significant to their possess society. Grown-up or peer mediation in this setting is a basic portion of the advancement phase. Fine motor skills, like being able to button a shirt, pour milk into a glass, put together puzzles and draw pictures, require hand-eye coordination and small muscles. As children improve these skills, they can become more independent and do more for themselves. Small children can grasp cutlery better and become more independent when feeding. Many fine motor skills are very difficult for young children because they involve both hands and the sides of the brain. With short, immature stubby fingers and an unmyelinated cerebral cortex, a difficult task like tying a shoelace becomes even more frustrating for young children. Tying shoelaces is a complex act that requires attention, memory for an intricate sequence of hand movements, and the dexterity to execute them. Although preschoolers have difficulty with this task, most 5- to 6-year-olds can tie their shoelaces.

Zone of Proximal Development. Vygotsky explained that children should be taught in the ZPD, which is when they can complete a task with support but not yet entirely on their own. However, with the right kind of teaching, they can achieve this successfully. A good teacher will identify a child's ZPD and help them overcome it. Then the adult (teacher) gradually withdraws the support until the child can complete the task unaided. The researchers applied the metaphor of scaffolding (the temporary platforms on which construction workers stand) to this type of teaching. A scaffold is a temporary support that parents or teachers give a child to complete a task.

SAMR Model. The SAMR Model presents a framework that categorizes strategies for integrating classroom technology into four distinct stages: Redefinition, Modification, Augmentation, and Substitution. With each progressive stage in the SAMR model, the utilization of Educational Technology (EdTech) evolves and becomes progressively more advanced.

Substitution. The Substitution phase represents the most basic utilization of EdTech, wherein it directly replaces traditional practices. By employing substitution strategies, valuable time and physical space can be saved through the reduction of laborious pen-and-paper tasks. Rather than dealing with the accumulation of numerous printed resources, which can create clutter, technology allows for efficient resource management with just a few simple clicks. Substitution also serves as a more approachable introduction to general technological skills compared to modification and redefinition. It presents an ideal opportunity for students to become acquainted with new technologies before embarking on the transformative journey of reshaping their learning experiences.

Augmentation. During the Expansion phase, technology goes beyond mere convenience and contributes to the learning process by providing added value. It enables students to develop a clearer comprehension of complex subjects and makes learning engaging in ways that traditional methods cannot achieve. Furthermore, it facilitates the introduction of independent and student-centered learning approaches. By utilizing technology as an information source, students can engage in active learning without the constant need for teacher guidance.

Modification. In this phase, technology is employed to create interactive and dynamic activities that surpass the limitations of a traditional classroom setting. For instance, students can collaborate on shared documents or engage in large group work, enabling seamless collaboration and knowledge sharing. This peer-to-peer collaboration fosters a more cooperative and vibrant classroom culture. Additionally, technologically enhanced assignments empower students to generate inspiring and innovative work beyond the confines of paper-based formats.

Redefinition. It represents the highest level of advancement within the SAMR model, where technology is utilized to create entirely new learning opportunities. Through redefinition, learning experiences can be connected to the real world, leading to the production of authentic outcomes. This stage also equips students with essential transversal technology skills, including digital collaboration, communication, technology literacy, and adaptability to new systems and processes. Significantly, when technology is employed to redefine classroom learning, it cultivates a vibrant learning environment with engaged students who adopt a growth mindset.



Republic Act. 10553 (Enhanced Basic Education Act of 2013). This act is also known as the Basic Education Act, which supports the fruition of the Enhanced Basic Education Program, which paved the way for the creation of an additional two years in the curriculum, known as Senior High School, and the inclusion of kindergarten, which will become compulsory (Sec 2). In addition, the enhanced basic education program comprises the addition of kindergarten, which is one year, and the conventional six (6) years of elementary education. Additionally, creating two (2) years for the Senior High School will give the students more time to prepare for college (Sec 4).

Specifically, for learners with disabilities, this law realized the provision of further technical and instructional assistance needed for them. This law streamlined educational processes and focused on their educational needs. The DepEd is true to its mandate that education is for all.

This helped the learners with special needs in a way that DepEd would let the different offices prioritize and develop various educational programs that cater to their special needs. It helped expedite the delayed delivery of the multiple services needed for learners with special learners.

Magna Carta for Persons with Disabilities, in its revised form, highlights the inclusion of individuals with disabilities in Philippine society and recognizes their equal rights to participate fully in society. It emphasizes that their rights should not be perceived as mere welfare services the government provides. The Magna Carta imposes an obligation on the State to adopt policies that promote the rehabilitation, self-development, and self-reliance of persons with disabilities. It also emphasizes the importance of developing their skills and potential, enabling them to compete on an equal footing for available opportunities. In addition, the Magna Carta for Persons with Disabilities places significant emphasis on the right of individuals with disabilities to obtain proper access to high-quality education and ample opportunities for skills development. Furthermore, it places the corresponding responsibility on the State to ensure that this right is effectively realized and upheld.

Magna Carta for Persons with Disabilities imposes a duty on the State, particularly the Department of Education (DepEd), to actively promote the provision of auxiliary services that facilitate the learning process for students with disabilities. As per the provisions of the Magna Carta, the State is under a legal obligation to take into careful consideration the distinctive needs and requirements of individuals with disabilities while formulating education policies and programs.

This encompasses a comprehensive range of considerations, including but not limited to the provision of suitable school facilities, the establishment of accommodating class schedules, the fulfillment of specific prerequisites for physical education, and the addressing of other relevant aspects that directly influence the educational trajectory of individuals with disabilities.

Through the implementation of the Magna Carta for Persons with Disabilities, learners with special needs now have a guide and assurance from the State whenever bullying and other forms of biases disturb them.

With the Magna Carta as well, there is no clear support for the different programs which aim to calibrate the potential of these learners so that they cannot lag in building the nation. The realization of the different instructional plans, programs, and goals can be easily achieved since the provision of auxiliary services is clearly defined.

According to Article 23 of the United Nations Convention on the Rights of the Child, it is estimated that around 200 million children worldwide have a disability. It is important to note that it is not the impairments themselves that cause disability, but rather the negative attitudes and inaccessible environments surrounding these children, which hinder their participation in society. These children are particularly vulnerable to violations of their rights due to their dependency on others and the barriers they encounter when trying to report instances of abuse or mistreatment.

Within this convention, the States Parties acknowledge the importance of providing mentally or physically disabled children with the opportunity to lead a complete and respectable life in circumstances that uphold their dignity, foster self-reliance, and facilitate their active involvement in the community. Furthermore, the States Parties acknowledge the right of disabled children to receive special care. They are encouraged to ensure, to the extent possible within the available



resources, the provision of assistance that is suitable for the child's condition and takes into account the circumstances of the parents or caregivers responsible for the child.

An early study, as cited by the National Education Center (2018), designed a series of experiments that required high school math students to learn to solve a series of simple algebra problems. They found that students who were taught using lots of practical examples learned faster than students who had to solve problems independently. They also found that students who taught with practical examples were not only better able to solve similar problems on later tests but were also better able to solve "transfer problems" that involved applying the same algebraic rules they had learned that are applied in different situations contexts. The effect has since been replicated in numerous work examples.

Maiano et al. (2019) find that learners with intellectual disabilities (ID) have significant limitations in intellectual and adaptive behavioral functioning, resulting in impairments in conceptual, social, and practical adaptive skills. In particular, adolescents with intellectual disabilities tend to exhibit significantly poorer basic movement and object control skills than typically developing (TD) children and adolescents.

Because Fundamental Motor Skills (FMS) are related to the development of fine motor skills, FMS is crucial for participation in various physical activities or sports. Logan et al. (2018) these deficits may make youth with ID less willing or inclined to be physically active. This is a severe health concern, as young people with ID are known to be less physically active than young people with TD. The greater the FMS deficiency, the less physical activity these young people will have and the higher their risk of overweight/obesity. Thus, improving FMS among youth with ID could be a crucial issue in terms of increasing participation in physical or sports activities and limiting health problems.

As cited by Dehghani (2019), children with intellectual disabilities (ID) often have cognitive problems related to performing exercises. Moreover, their practical experience is limited. Intellectual disability (ID) affects all areas of the lives of people who suffer from it. It lowers the level of intellectual performance, often stigmatizes, alters characteristics, and reduces motor performance. Unfortunately, modern medicine cannot cure intellectual disability; however, there is a chance to improve the quality of life of people with mental retardation by means of physical exercises and by enhancing coordination, the quality of gait, and efficiency in performing everyday activities.

In addition, the technical learning of teachers from seminars and training courses is essential for the development of the fine motor skills of the individual. With the education they have gained in this training, they become helpful in creating the appropriate learning materials that meet the educational needs of learners with disabilities.

As cited in the study by Lander et al. (2019), in-service teacher training programs appear to be: ≥ 1 day in duration; provide comprehensive professional and educational content; are framed by a theory or model; provide ongoing follow-up or support; and measuring teacher satisfaction with training is more effective in improving student outcomes in FMS and/or PA. However, the provision of information on the characteristics of teacher education has been largely insufficient.

Mastery of physical activity can lead to mastery of fine motor skills. Physical activity (PA) declines significantly during adolescence and is consistently lower in girls. Competence in a range of fundamental motor skills (FMS) may serve as a protective factor against the decline in PA typically seen in adolescent girls;

However, the predominance of girls in the FMS is low. Although interventions can improve FMS, few interventions target girls, and very few are delivered in secondary schools. Moreover, interventions are usually led by researchers and not teachers and are, therefore, unlikely to be integrated into curricula (Lander et al., 2019).

Visual-motor integration (VMI) skills, defined as the coordination of motor skills and visual perception, are a great indicator of a child's overall level of functioning. Research has demonstrated that children with intellectual disabilities (ID) have deficits in VMI skills. According to Memesivic (2018), visuomotor integration (VMI) is one of the strengths of these children. In the

study, she suggested that their abilities at this strength should be targeted for intensive academic interventions to reduce problems with adaptive functioning.

In conclusion, the support of the different theories, alongside the legal bases and related studies, will guide the researchers to generate data that will help to facilitate the provision of an acceptable motor skills enhancement plan. Moreover, this will also show the researchers to come up with a very feasible enhancement plan.

2. STATEMENT OF THE PROBLEM

This research assessed the fine motor skills of learners with intellectual disabilities in home-based learning at the identified schools in Mandaue City Division, Cebu, for the school year 2021-2022 as a basis for the fine motor skills enhancement plans.

Specifically, it aimed to answer the following questions:

1. What is the demographic profile of the respondents in terms of:
 - 1.1 age and gender,
 - 1.2 intellectual disability classification,
 - 1.3 parent's highest educational attainment, and
 - 1.4 the number of siblings?
2. What is the level of fine motor skills of the learners in terms of:
 - 2.1 Buttoning and unbuttoning,
 - 2.2 Zipping and Unzipping,
 - 2.3 Snapping and Unsnapping,
 - 2.4 Shoelacing?
3. As rated by the parents, what is the level of acceptability of the Learning Intervention Sheets in terms of:
 - 3.1 Objectives,
 - 3.2 Content,
 - 3.3 Topics,
 - 3.4 Activities?
4. Is there any significant relationship between the identified profile and the fine motor skills of the learners?
5. Based on the findings, what enhancement plan for fine motor skills may be created?

3. RESEARCH METHODOLOGY

This part presented the methodology undertaken by the researchers to be used in this study. It included the research design, research environment, research population, and sampling technique.

Design

This research used a descriptive correlational design. This investigated if there was a significant relationship between the identified profile of the learners and their fine motor skills. In this study, the researchers employed universal sampling, which considers the current number of learners with disabilities in the identified school in Mandaue City.

The data were gathered on the profile of the learners with disabilities and the perception of parents using survey questionnaires. The respondents would check the desired item that best represents their responses and perceptions. In addition, these data were treated using statistical treatments like Pearson R and Chi-Square.

Flow of the Study

Figure 2 presents the flow of the study that covers the input and process output of this research study involving the use of LIS for children with schools identified as Special Education centers in the Division of Mandaue City.

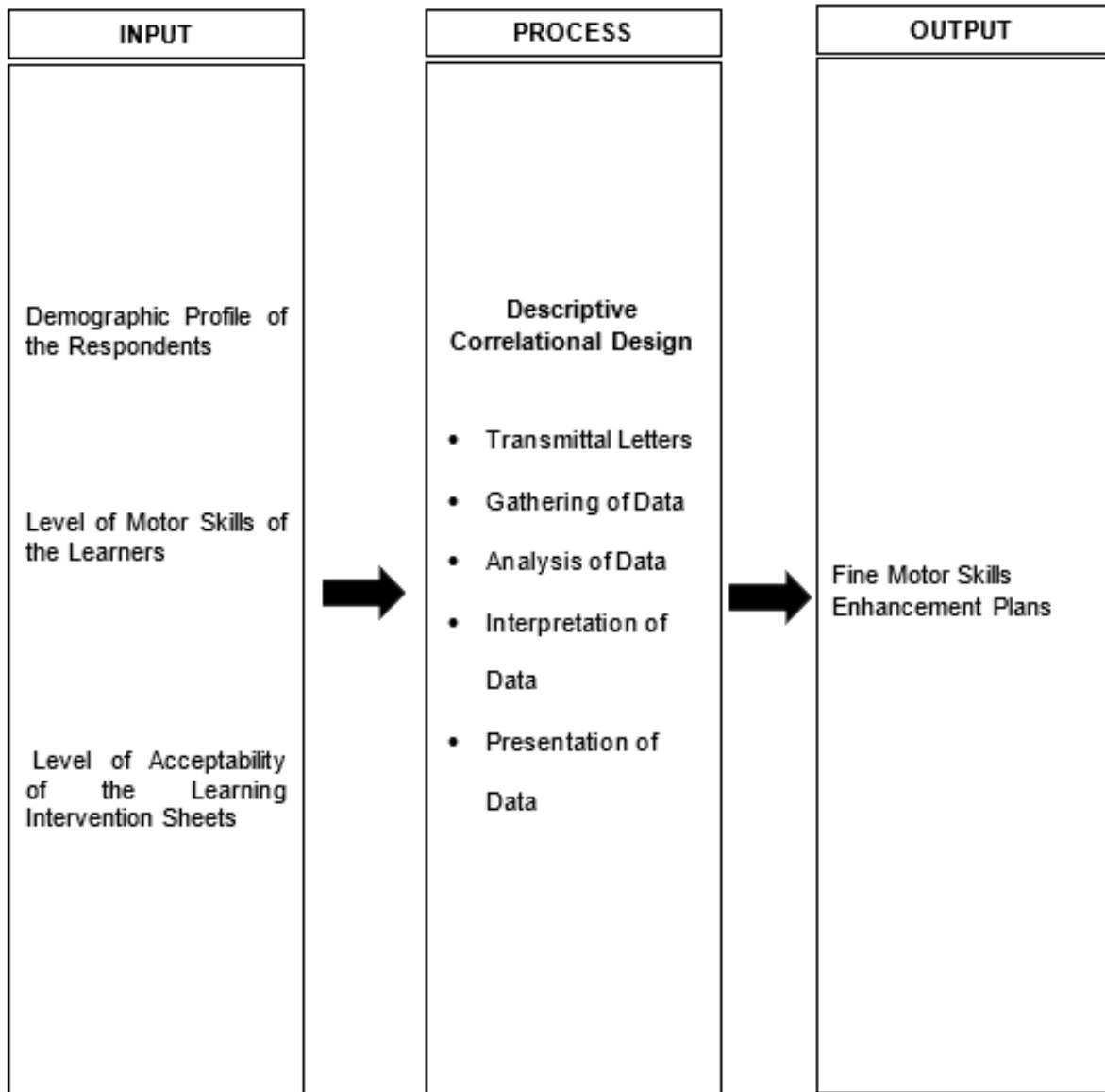


Figure 2. Flow of the Study

Environment

The research environment of the study is the following institutions:

Mandaue City Central School SPED Center. This public school provides pre-elementary to Senior High programs for special needs students. It has 600 special education students. To educate students despite the current challenge, this school is using Alternative Distance Learning (“modular education”). They are still providing the community with the best education including those with special needs.

Basak Elementary School. This public elementary school is situated at the intersection of Labogon and North Road (North National Highway) in Mandaue City. Currently, 100 teachers are teaching an increasing number of learners, including those with special needs. It provides a General Curriculum, which includes Elementary and Special Education. It has modern facilities such as a library, computer laboratory, and more to aid teachers in their teaching.

Paknaan Elementary School. This public elementary school is located in Jayme, Paknaan, Mandaue City, Cebu and has 3845 pupils and 116 teachers with a 1:45 ratio. It is headed by a school head. With population growth, the school adapted with 42 classrooms.

Respondents

The respondents of this study are the learners with intellectual disabilities with their parents. Since there is a minimal number of respondents, the researchers employ universal sampling. In this way, the study will be conducted on all students with special needs in the chosen environment.

Distribution of the Respondents (Parents and Children with ID)

School	Parents	
	f	%
Mandaue City Central SpEd School	26	45.61
Basak Elementary School	18	31.58
Paknaan Elementary School	13	22.81
Total	57	100.00

Based on the table presented above, it can be implied that 45.61% of the parents are in Mandaue City Central SpEd School since this school offers complete curricular offerings from Pre-Elementary Level up to Senior High School. In addition, this school is also situated in the heart of the city so that it can be easily accessed. Basak Elementary School comprises 31.58% of the respondents' distribution. It has 18 parents will be respondents to the said study. In addition, in Paknaan Elementary School, there will be 13 parents, or 22.81% of the total percentage, and one teacher who will comprise as a respondent.

Instrument

The instrument used in this research is survey questionnaires and rubrics that measure the performance of learners with intellectual disabilities.

The survey questionnaire is divided into parts. The first part contained the questionnaire that sought to gather the different profiles of the learners. The data to be collected in this part were: age and gender, intellectual disability classification, parents' highest educational attainment, and number of siblings. In this part of the questionnaire, the respondents thought the parents put a checkmark on the items that best represented their situation.

The next part of the survey questionnaire dealt with the perception of parents on the level of acceptability of the Learning Intervention Sheets in the different indicators like Buttoning and Unbuttoning, Zipping and Unzipping, Snapping and Unsnapping, and Shoe lacing. These items were rated using the Likert Scale. This used 4 points range Likert Scale which is categorized as follows: 4 - strongly agree; 3 - agree; 2 - disagree; 1 strongly disagree. The respondent will be going to put a check on the cell that they think that specific aspect of the rubrics best represents their perception of the material.

Another is the rubrics. These rubrics contain indicators that determine the level of the fine motor skills of the learners in the different aspects of the activities. The rubrics found the criteria used by the researcher to objectively describe the range of the fine motor skills of the learners with intellectual disabilities. Further, these rubrics are adapted from (Mondays, 2020).

Data Gathering Procedure

This study undergoes 4 phases in the data-gathering procedure to answer the sub-problems.

Preliminary Stage. The researchers seek approval from the head of the institution through the letter to be sent to the Division Office of Mandaue City. Once signed, the researchers will coordinate with the specified school, as reflected in the endorsement paper from the Division Office. As assisted by SpEd teachers, the researcher will gather the names of the parents of the learners with learning disabilities. Upon identification of parents and through the assistance of teachers, they will contact the parents on the possible conduct of the activity. As agreed on the mode of orientation to parents. The researchers will then perform an orientation to the parents or guardians of the students-respondents, elaborate on the purpose of the study and ensure their full support and cooperation.



Data Gathering Stage. The parents and their learners will answer the Learning Intervention Sheets. If the parents have a doubt or confusion, the researchers will freely accommodate all their concerns. In addition, if the interaction is done face-to-face, it will follow the minimum health standard following the guidelines set by IATF. After answering the Learning Intervention Sheets and the Perceptions of Parents on the Acceptability of the LIS, the researcher will be going to count and tally the different responses from the respondents.

Post Data Gathering Stage. After data gathering of the two variables, analyses of the significant relationship between the fine motor skills in the different tests conducted by students, assisted by their parents, and the acceptability level of Learning Intervention Sheets.

Ethical Consideration. Privacy and safety are the utmost concern of the researchers in the course of this study, and they will inform the respondents through the parents or guardians through the consent form. This consent form is explicitly explained to the respondents of the survey. After the consent has been secured, all the responses, considered raw data, will be kept private and confidential. Thus, it will only be used for the sole purpose of this study.

Data Privacy. In this research, the provision of the Privacy Act of 2002 is adapted, whose primary aim is to protect the respondents' personal information as part of this educational endeavour. Regarding the secrecy and privacy of the gathered data, the researchers will keep it and never disclose it to anybody. The data collected will only be used solely and purposely for the benefit of this study.

Statistical Treatment of Data

Frequency and Simple Percentage. These were utilized to display and explain the demographic profile of the learners in the table in terms of child's ID classification, age and gender, educational attainments, number of children, and parents' highest educational attainment to describe them quantitatively.

Weighted Mean. The weighted arithmetic mean will be used to compare the mean values of the criteria and indicators in the two variables:

Fine motor skills performance of the students and acceptability level of the Learning Intervention Sheet. Each will be averaged from the items in the questionnaire; and assigned with weight, which identifies the importance of each.

Chi-Square and Pearson R. These statistical treatments will be used to test the significance of the relationship between the identified profile and the fine motor skills of the learners.

Test of Significant Relationship

This part of the study presented the Summary of the Test of the Relationship Between the Profile and the Fine Motor Skills of the Learners in terms of Buttoning and Unbuttoning, Zipping and Unzipping, Snapping and Unsnapping and Shoe lacing.

Test of the Relationship Between the Profile and the Fine Motor Skills of the Learners in terms of Buttoning and Unbuttoning

Buttoning and Unbuttoning Skills VS.	df	χ^2 -value	p-value	Decision	Result
Age	1	2.309	0.129	Do not Reject Ho	Not Significant
Gender	1	0.269	0.604	Do not Reject Ho	Not Significant
ID Classification	1	3.792	0.051	Do not Reject Ho	Not Significant
Parent's Highest Educational Attainment	1	1.184	0.277	Do not Reject Ho	Not Significant
Number of Siblings	1	0.472	0.492	Do not Reject Ho	Not Significant

*significant at p<0.05



This table presented the test of the relationship between the profile and the fine motor skills of the learners in terms of buttoning and unbuttoning using a Chi-square test at a 0.05 level of significance. The computed statistics revealed the following results: age(=2.309, p=0.129), gender(=0.269, p=0.604), ID classification(=3.792, p=0.051), parent’s highest educational attainment(=1.184, p=0.277), and number of siblings(=0.472, p=0.492).

This can be inferred that age, gender, ID classification, parents’ highest educational attainment, and number of siblings are not significantly related to learning in terms of buttoning and unbuttoning because the p-values are greater than 0.05.

This can be inferred from the idea that the performances of the students in this particular fine motor skill were below the Highly Proficient Level. Hence, this variable can be an implication of the non-existence of a significant relationship.

Kirk (2021) investigated whether there is no difference between the quality of life and motor skills of children with intellectual disabilities who do not participate in the study. When motor skills tests of children with intellectual disabilities were evaluated in the experimental group, no significant improvements were found in fine motor accuracy, fine motor integration, manual dexterity, bilateral coordination, balance, speed, in agility, upper limb coordination, strength tests, and all size scores.

Test of the Relationship Between the Profile and the Fine Motor Skills of the Learners in terms of Zipping and Unzipping

Zipping and Unzipping Skills VS.	df	χ^2 -value	p-value	Decision	Result
Age	1	1.442	0.230	Do not Reject Ho	Not Significant
Gender	1	2.108	0.147	Do not Reject Ho	Not Significant
ID Classification	1	5.695*	0.017	Reject Ho	Significant
Parent’s Highest Educational Attainment	1	1.102	0.294	Do not Reject Ho	Not Significant
Number of Siblings	1	0.426	0.514	Do not Reject Ho	Not Significant

*significant at p<0.05

The table presented the test of the relationship between the learners’ profile and their fine motor skills in terms of zipping and unzipping using a Chi-square test at a 0.05 level of significance. The computed statistics revealed the following results: age(=1.442, p=0.230), gender(=2.108, p=0.147), ID classification(=5.695, p=0.017), parent’s highest educational attainment(=1.102, p=0.294), and number of siblings(=0.426,p=0.514). The results imply that age, gender, parent’s highest educational attainment, and the number of siblings are not significantly related to the learners’ zipping and unzipping skills because their p-values are greater than 0.05 (p > 0.05). On the other hand, the ID classification of the learners was revealed to be significantly related to their zipping and unzipping skills because its p-value is less than 0.05 (p < 0.05).

The significance of the ID can be inferred from the idea that the result is homogenous and therefore yields a significant result.

The study by Yuhas et al. (2019) identified the relationship between motor skills and behavioral problems in children with ID. The results showed that the accuracy and integration of fine motor skills did not have a significant impact on aggressive behavior. Manual dexterity showed a

statistically significant impact on somatic discomfort and anxiety/depression, and bilateral coordination had a statistically significant impact on social problems, attention problems, and aggressive behavior. The results showed that balance had no significant impact on social problems and aggressive behaviors and that speed and agility had a negative influence on social problems and aggressive behaviors. Upper limb coordination and strength had a statistically significant impact on social problems.

**Test of the Relationship Between the Profile and the Fine Motor Skills
of the Learners in terms of Snapping and Unsnapping**

Snapping and Unsnapping Skills VS.	df	χ^2 -value	p-value	Decision	Result
Age	1	0.271	0.602	Do not Reject Ho	Not Significant
Gender	1	4.397*	0.036	Reject Ho	Significant
ID Classification	1	0.546	0.460	Do not Reject Ho	Not Significant
Parent's Highest Educational Attainment	1	0.929	0.335	Do not Reject Ho	Not Significant
Number of Siblings	1	0.132	0.716	Do not Reject Ho	Not Significant

*significant at $p < 0.05$

This table presented the test of the relationship between the learners' Profile and their fine motor skills in terms of snapping and unsnapping using a Chi-square test at a 0.05 level of significance. The computed statistics revealed the following results: age(=0.271, $p=0.602$), gender(=4.397, $p=0.036$), ID classification(=0.546 $p=0.460$), parent's highest educational attainment(=0.929, $p=0.335$), and number of siblings(=0.132, $p=0.716$). The results imply that age, gender, parent's highest educational attainment, and the number of siblings are not significantly related to the learners' snapping and unsnapping skills because their p-values are greater than 0.05 ($p > 0.05$). On the other hand, the Gender classification of the learners was revealed to be significantly related to their zipping and unzipping skills because its p-value is lesser than 0.05 ($p < 0.05$). The significance of gender can be inferred from the idea that the result is not homogenous therefore yields a significant result.

The study by Bambang (2019) determined the difference between fine motor skills and attention levels of children with mild intellectual disabilities who are educated in inclusive classrooms and special education schools and analyzed the relationship between fine motor skills and attention levels.

Fine motor accuracy (FMP), fine motor integration (FMI), and attention levels of children in inclusive classrooms were higher than those attending special education schools ($p < .05$). There was a negative correlation between attention values and fine motor skills across all parameters of children in inclusive classrooms and special education schools. The fact that children with mild intellectual disabilities receive an inclusive education with normally developing peers contributes most to these individuals in terms of fine motor skills and attention metrics. However, more extensive work is needed in this area.



Test of the Relationship Between the Profile and the Fine Motor Skills of the Learners in terms of Shoe lacing

Shoe Lacing Skills VS.	df	χ^2 -value	p-value	Decision	Result
Age	1	0.007	0.933	Do not Reject Ho	Not Significant
Gender	1	1.198	0.274	Do not Reject Ho	Not Significant
ID Classification	1	3.792	0.051	Do not Reject Ho	Not Significant
Parent's Highest Educational Attainment	1	0.403	0.526	Do not Reject Ho	Not Significant
Number of Siblings	1	0.472	0.492	Do not Reject Ho	Not Significant

*significant at $p < 0.05$

The table presented the test of the relationship between the Profile and the fine motor skills of the learners in terms of Shoe lacing using a Chi-square test at a 0.05 level of significance.

The computed statistics revealed the following results: age(=0.007, $p=0.933$), gender(=1.198, $p=0.274$), ID classification(=3.792, $p=0.051$), parent's highest educational attainment(=0.403, $p=0.526$), and number of siblings(=0.472, $p=0.492$). This can be inferred that age, gender, ID classification, parents' highest educational attainment, and the number of siblings are not significantly related to learning in terms of buttoning and unbuttoning because the p-values are greater than 0.05.

This can be inferred from the idea that the performances of the students in this particular fine motor skill were below the Highly Proficient Level. Hence, this variable can be an implication of the non-existence of a significant relationship.

According to Luban et al. (2019), the subject is able to quickly and efficiently process related information to execute complex motor patterns such as object control patterns. For example, to perform grasping and grasping movements, extrinsic (distance, orientation) and intrinsic (shape, consistency) properties of the object must be processed.

Indeed, a selective and significant deficit in optic flow motion perception and corresponding suppression of electroencephalographic activity was found in young DS individuals with mild intellectual disability compared to mental age-matched controls. However, no significant differences were found in improved ball skills and running speed versus balance, posture, or motor planning in children with DS.

4. SUMMARY AND FINDINGS

Summary. This study assessed the fine motor skills of learners with intellectual disabilities in home-based learning at the identified schools in the Mandaue City Division. Findings were the basis for proposed fine motor enhancement plans. It used a descriptive correlational design. This investigated if there was a significant relationship between the identified profile of the learners and their fine motor skills. Further, this also explored the significant relationship between the Learning Intervention Sheet's acceptability and the parents' perception. The respondents of this study were the learners with intellectual disability with their parents. It utilized a researcher-made questionnaire. Data collected were statistically processed using the frequency, percentage, weighted mean, Chi-square, and Pearson-r.

Findings.As to the profile of the respondents, it reveals that most of the learners are aged 5-9 years old (28 or 49.12%, male (18 or 31.58 %), having mild intellectual disability (43 or 75.44%). In addition, the parent's highest educational attainment of the learners is high school graduates (38 or 66.67 %). Most learners have 3-4 siblings (23 or 40.35%).

On the level of performance of fine motor skills of the learners, the study reveals that in most of the students in terms of buttoning and unbuttoning skills there, 22 or 38.60 of the learners performed proficiently; in terms of zipping and unzipping, most of the learners proficiently performed this skill. There are 26 or 45.61 % of learners performed this zipping and unzipping; in terms of snapping and unsnapping, most of the learners are not proficient. There are 23 or 40.35%; in shoe lacing, 32 or 56.14% learners are not proficient in performing this skill.

On the perception of parents on the acceptability of the Learning Intervention Sheets, the study reveals a grand mean of 3.21, which is verbally described as acceptable.

The study reveals no significant relationship between the respondents' profile and the learners' fine motor skills except for ID Classification in terms of Zipping and Unzipping and Gender in terms of snapping and unsnapping.

CONCLUSION

The study concluded that after assessing the fine motor skills of the learners with intellectual disabilities in home-based learning at the identified schools in Mandaue City Division. The learners proficiently performed the following skills: buttoning and unbuttoning, zipping, and unzipping. On the other hand, the learners did not proficiently perform in skills, namely: snapping and unsnapping, and shoe lacing. This can be attributed to the assumption that these learners were introduced to the Learning Intervention Sheet for the first time. Hence, they were not used to this kind of instructional material.

Recommendations. The researcher strongly recommends using the output as supplementary or additional learning material to enhance fine motor skills development. The material can also be used as an assessment to know the fine motor skills of the individuals.


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