



*Special Collection: Short Report*

**SAKLAY: A Guide to an Assistive Technology Service Delivery Process in the Philippines**

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## Abstract

Occupational Therapy (OT) can help enhance human performance and well-being through assistive technology (AT). This entails guiding clients through the AT selection and acquisition process down to helping them integrate these tools' use as supports to their day-to-day living. Unfortunately, the AT prescription and acquisition process can be tedious, costly, complicated, and uncoordinated in some countries such as the Philippines. AT service delivery is an undeveloped area of practice among Filipino occupational therapists due to the lack of local evidence-based research, practice models, and practical knowledge of the process. Moreover, access to AT is affected by economic factors and by some Filipinos' negative attitudes towards assistive devices as being a validation of one's incapacitation. The SAKLAY is a service delivery framework that was created to offer a practical and systematic guide to Filipino occupational therapists who render AT services for persons with disabilities (PWD) that takes into account the client's needs, resources, abilities, and contexts.

**Key Words:** Occupational Therapy, Assistive Technology, Service Delivery Process, Philippines

## INTRODUCTION

Assistive Technology (AT) is a multidisciplinary intervention that helps people engage in activities that are important to them through compensatory methods.<sup>1</sup> These services can help individuals of varying needs restore or enhance their level of function. These can be categorized depending on their application: (1) Mobility, (2) Vision, (3) Hearing, (4) Positioning, (5) Communication, (6) Everyday Life, and (7) Learning.<sup>2</sup> Examples of but not limited to these are canes, wheelchairs, and prosthetics for mobility; magnifiers or text-to-speech software for vision; hearing aids for hearing; cushion or splint for positioning, communication boards or speech-generating devices for communication; dressing aids or simple timers for everyday life;

and lastly, braille or adaptive toys for learning. Ranging from no to low-tech interventions to high-tech interventions, these services can allow people with disabilities (PWD) to participate in their chosen occupations<sup>3</sup> allowing them to maintain or improve their level of functioning and independence, thereby promoting their well-being.<sup>4</sup>

Globally, the World Health Organization (WHO) states that more than a billion people may need one or more AT; however, only one out of ten have access to these.<sup>4</sup> It is estimated that in developing countries, such as the Philippines, only 5–15% of people requiring AT have access to them.<sup>5</sup> For instance, only less than 3% of the demand for hearing aids is supplied. Estimates

also indicate that although 0.5% of the population need prosthetic and orthotic devices, and 1% need wheelchairs, these needs are far from being met.<sup>5</sup> In a study done to examine the wheelchair service provision and wheelchair-use-related outcomes in Kenya and the Philippines,<sup>6</sup> it was surveyed that regarding services received in their lifetime, 17% of the Filipino participants had received wheelchair-related training. A quarter of the participants received provider instructions in taking care of the wheelchair, 40% were helped to choose the right wheelchair by the provider, 18% had been told where to seek help for the repairs, and 20% were contacted by the provider. In addition, it was also reported that with the current wheelchair users, 31% received wheelchair assessments and 26% received wheelchair training. A United Nations Children's Fund report also revealed that one out of seven Filipino children, or around 5.1 million, are living with disabilities,<sup>7</sup> and 30 percent, or 1.5 million of these children, will need AT. Likewise, only one in 20 Filipino CWDs has access to assistive devices, while 95% or 1.42 million have unfulfilled needs for AT.<sup>8</sup> The limited access to AT is due to the lack of funding, nationwide service delivery systems, user-centered research and development, strategies for procurement, provision of quality and safety standards, and context-appropriate product designs.<sup>4</sup>

Occupational therapists use their knowledge in human occupation, kinesiology, biomechanics, perception and learning theory, and skills in activity analysis and energy conservation to guide clients during the AT selection process and integrate its use into their clients' daily lives.<sup>1</sup> The process of obtaining an AT, however, largely depends on the service delivery model, systems, and policies that exist where the client lives. While some system designs may be integrated and effective, AT service provision, in other circumstances, has been labeled tedious and complicated, fragmented and uncoordinated, or sometimes problematic.<sup>9</sup> In a research examining the process of AT service in developing countries such as Bangladesh, India, and Nepal,<sup>10</sup> the researchers reported that while they exhibited common features, the process was still not smooth nor linear due to the inaccessibility of obtaining an AT, the complexity within the system of funding and because there were no

systematic practice and plans for repairs or maintenance of these products.

## **DEVELOPMENT PROCESS**

The proponents developed the SAKLAY service delivery process by reflecting upon clinical roadblocks that they have encountered in their vast and diverse occupational therapy practice and by integrating insights from various case studies. The title of the service delivery process comes from the Filipino word 'Saklay' or crutches, a common assistive device and a universal symbol for disability support. The word 'Saklay' is also used as a metaphor of guidance for occupational therapists to assist clients in obtaining and using an AT from evaluation to outcome assessment. With this title in mind, the proponents hope that SAKLAY can guide occupational therapists in the service delivery process of assistive services for persons with disabilities (PWD) in the Philippines.

The proponents created this process initially by critically reviewing AT models and service delivery processes available in other countries. The models considered were mainly from the United States of America (USA) and the United Kingdom (UK). The proponents then noticed how each of these models had common terms and processes that included evaluation, intervention, outcome, and discharge. These AT models emphasized the user's ability to use the AT in their context and how these can be integrated into their everyday lives. However, these models appeared to assume that the users would have reasonable or easy access to purchase the proposed AT and that they live in relatively accessible physical and social environments. Hence, the utility of the aforementioned models in developing countries such as the Philippines may be limited due to the users' lack of funding sources, lack of suppliers, and limited AT options available for trial. The presence of laws about the provision of AT in the Philippines is present but seldom invoked in Filipino OT practice.<sup>11-13</sup> For instance, most ATs are still bought out-of-pocket by Filipino clients. These are often costly and are not readily available since they are imported from other countries. Due to clients' financial constraints, occupational therapists in the Philippines would instead improvise and adapt

different locally available materials. SAKLAY aims to capture this practice of indigenization.

Stigma and occupational injustice are experienced in the Philippines as most establishments do not comply with legislation that mandates inclusive and accessible spaces for PWDs. These realities are factors that the proponents considered in developing the SAKLAY service delivery process. AT products or services should match the client's environment and motivation to use them in their homes and communities.

In conclusion, this service delivery process is developed based on sound theoretical models and clinical insights. It takes into account the influence of occupational injustice, Filipinos' culture, and attitudes towards disability and assistive technology in the rehabilitation process. This service delivery process is created to guide occupational therapists in helping clients access the best possible assistive technology service that matches their needs, resources, abilities, and environment.

## TERMINOLOGIES

The following definitions and terminologies are provided to explain the proposed service delivery process.

The current occupational injustice and stigma in the Philippines influenced the development of SAKLAY. *Occupational Injustice* happens when a person, group, or population is denied, excluded from, or deprived of the opportunity to pursue meaningful occupations or when unchosen occupations are imposed on them, resulting in decreased quality of life.<sup>14</sup>

The *Client* refers to any person in any setting who is identified and referred for occupational therapy services for the need of Assistive Technology/Assistive Technology services. *Assistive Technology* is any item, piece of equipment, or product used to maintain or improve the functional capabilities of people with disabilities for them to be able to participate in daily life and promote well-being. It ranges from low-technology to high-technology devices. A device or equipment that is less expensive, does not have complex mechanical features and requires less training is

considered *Low-Technology AT*. This may include but are not limited to, walkers, canes, crutches, magnifiers such as spectacles, reaching aids, transfer boards, splints, universal cuffs, etc. *High Technology ATs* are complex devices/equipment that have digital or electronic components and may be computerized which requires more training. Speech to Text systems, powered wheelchairs, electric lifting devices, hearing aids, and augmentative communication devices are a few examples.

*Service delivery* is formally defined as "any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology (AT) device."<sup>15</sup> *Assistive Technology Service* is the process of evaluating the need, acquiring the device, fitting and customizing the device, coordinating the plan, and providing training, education, and technical support to the client and related support personnel.

For both Phase I and Phase III of SAKLAY, the term *Person* refers to the characteristics of the client. This includes the Physical, Physiological, Cognitive, Psychological, Behavioral, and Spiritual components that need to be considered as the client participates in and performs meaningful occupation. The term *Occupation* is defined as "the everyday activities that people do as individuals, in families, and with communities to occupy time and bring meaning and purpose to life."<sup>16</sup> These are meaningful activities that the client chooses to participate in and/or will be using and integrating the AT. The term *Environment* features the extrinsic factors in the environment that affects the client's participation in occupation which include social support (includes family, friends, and support personnel), culture and values, social and economic systems, built environment and technology, and the natural environment.

Phase II is when the occupational therapist will conduct the AT Trial and identify the AT supply and source of funding. *Funding* is the monetary budget allocated for the purchasing, customization, modification, and training of assistive technology. It may come from the national or municipal budget of the government as well as from the personal funds of the client. The current funding in the Philippines is supported by numerous laws and legislations for

PWDs<sup>11-13</sup> as well as Medical Assistance Programs that are available by government agencies such as the Philippine Charity Sweepstakes Office (PCSO) and the Program for Persons with Disability of the Department of Social Welfare and Development (DSWD).<sup>17,18</sup> Supply refers to the availability of Assistive Technology options that were identified during the evaluation. *Supply* also includes identifying the possible local and international suppliers where the assistive device can be purchased. *Training needs* are the necessary skills that the client must learn to be able to use and integrate the device in their daily occupations and as well as keeping up with the maintenance of the assistive device. Training must be done initially with the help of an occupational therapist to gain knowledge about the AT, how to use it, how to maintain it and to incorporate it into their daily activities. It must be given to both the client and support personnel (family and caregivers) and must take place in naturally occurring activities and routines in order for the assistive technology device to be useful.

In order to provide the highest quality of care across settings, diverse health professionals from various professions/specializations must work together with their stakeholders. This practice is called Interprofessional Collaboration (IPC) which is encouraged in this model.<sup>19</sup>

## THEORETICAL BASES

The following are three key characteristics of an AT service delivery process: (1) The AT user is considered as a unique entity within his/her meaningful context. The user's goals, values, and concerns are greatly taken into consideration and are essential in making sure that he/she remains the highlight during the entire decision-making process; (2) A decision-making process exists. The entire process considers the AT user, context, funding, and matching of an appropriate AT to the individual in a contextualized setting; (3) AT devices and services are complex.<sup>9</sup> The multipurpose nature of AT refers to the multiple ways it could significantly impact various aspects of life such as overall functioning, health and wellness, safety, independence in meaningful daily living skills, and quality of life. To assist in developing a contextualized service delivery

process, theoretical frameworks specific to AT provision and other influential models of practice in occupational therapy are determined.

**Consortium Model.** The Consortium Model is a 10-step procedure designed to guide therapists through a series of actions and decisions regarding AT. It starts with recognition of a problem by the client and therapist, evaluation and outcome identification, assessment/identification of AT and AT services, developing an AT "menu" and matching it to the client's needs, identification of a supplier and funding source, implementation, and follow-up. The model is based on the principles of outcome-driven decision-making; it emphasizes assistive technology being a means to achieve independence in occupational engagement. In an outcome-driven system, appropriate therapeutic strategies are created to further improve an individual's skills to achieve personalized and time-bound outcomes.<sup>20</sup>

**The Human Activity-Assistive Technology (HAAT) Model.** The HAAT Model describes someone (human) doing something (activity) in a context using an AT. The emphasis of the model is on the person engaged in an activity within chosen environments.<sup>15</sup> The model is among the earliest published models of AT and is a principal framework within the field of occupational therapy.<sup>21</sup> It describes the factors that contribute to the fit/success of an assistive technology system for individuals with disabilities. The value of the HAAT model is substantial as its use among educators in AT and occupational therapy is commonplace.<sup>21</sup> Furthermore, it is the only AT-specific paradigm reported in clinical use.<sup>21</sup>

**Person-Environment-Occupational Performance (PEOP) Model.** The PEOP model is described as "a client-centered model organized to improve the everyday performance of necessary and valued occupations of individuals, organizations, and populations and their meaningful participation in the world around them."<sup>22</sup> It provides a framework with which to consider the 'fit' between a person and their environment.<sup>23</sup> The concept of congruence (or "fit") is used to describe the compatibility of the individual's abilities, goals and environment.<sup>24</sup> In AT literature, "match" is used analogously to describe the relative congruence of AT devices with individuals and their contexts

of use. It is critical in determining the actual usefulness of the AT, its ability to cater to the client's needs, and to facilitate the accomplishment of outcomes. Failure to

establish a right fit increases the possibility of AT device abandonment.

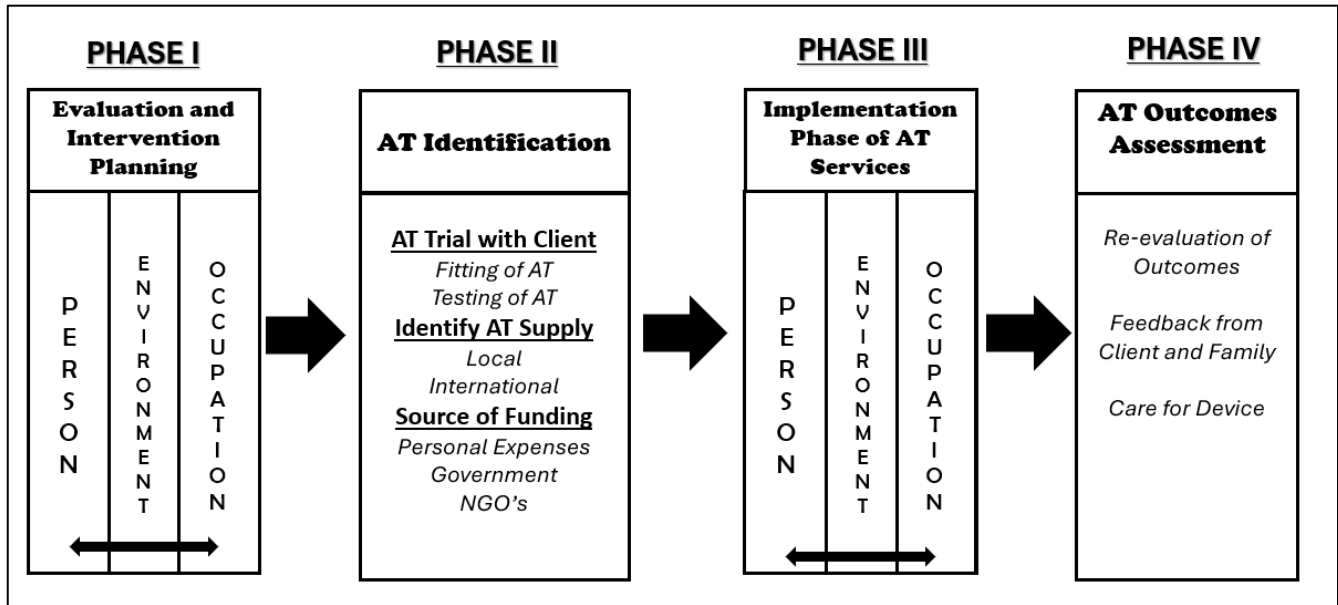


Figure 1. SAKLAY: A guide to an assistive technology service delivery process

**DISCUSSION**

The SAKLAY service delivery process presented in this paper was developed for Filipino occupational therapists to guide them in providing AT service delivery to their clients. A step-by-step process map which includes the evaluation, AT identification, implementation of AT services, and outcomes assessment was developed to help in the decision-making process.

Aside from the occupational therapist's role in the service delivery process, interprofessional collaboration (IPC) is included as it will provide a holistic perspective and intervention for the client. Through the practice of IPC, clients are guided in prioritizing the most appropriate AT to facilitate optimal occupational performance. In IPC, health professionals from various backgrounds and specializations work together as a team to deliver the highest level of quality care. Awareness of one's role and other professions' role in assessing and addressing a patient's healthcare needs is a core competency for effective collaboration. Recognizing the knowledge and experience of other health

professionals is beneficial in identifying and providing the ideal AT device for the clients.<sup>19</sup>

This model referred to the Consortium Model's principles of outcome-driven decision-making to promote the attainment of the client's desired outcomes and to maximize their skills.<sup>20</sup> In outcome-driven models, compensatory strategies such as AT are not invoked only when remediation and facilitation strategies are unsuccessful but are given equal weight during treatment planning. To achieve client outcomes, considerations about their occupations, environments, and contexts are taken into account in order to identify existing and potential barriers that could limit the client's functioning. In addition, it is important for occupational therapists to be able to facilitate the identification of funding sources, AT suppliers, and AT training to ensure the appropriateness and feasibility of the AT.<sup>20</sup> Additionally, the PEOP and HAAT models were used as bases for the conceptualization of SAKLAY's method of "matching" or "fitting" AT devices with clients and their context.

**Phase I: Evaluation and Intervention Planning.** The occupational therapist will create

an occupational profile of the client to identify the roles, routines, responsibilities, and occupations the client values and needs to perform successfully. Another key element of the occupational profile is the client's perception of his/her current situation and of what is the likely course of intervention. Once information is gathered, the client will establish his/her long-term and short-term goals with the help of the occupational therapist.

After obtaining the client's information, the evaluation process adheres to the principles of the PEOP model wherein the focus is on the client's Person factors, Environment, Occupation, and Performance as elaborated in the theoretical bases. The therapist, together with the client, will develop an intervention plan that entails generating a list of possible AT devices based on the client's personal and environmental factors, occupations, roles, routines, and responsibilities. The suggested guide questions that are mentioned below were formulated to serve as a guide across all four phases.

**Phase II: AT Identification.** Assistive technology identification entails three key components in this model namely: AT trial, Identifying AT supplier, and the source of funding. The AT trial entails fitting and testing the specific AT with the client. This is to ensure that the client will be able to use and manipulate the AT that will fit his/her needs and test if the AT is durable enough for use. Obtaining an AT also includes identifying potential suppliers and determining who are available locally or internationally. The last component is identifying the source of funding needed to purchase, modify, and train in the use of AT. One major barrier to AT services is funding. There are four factors that need to be considered during funding: (a) the cost of the equipment, (b) eligibility of the client in funding institutions, (c) professional knowledge, and (d) line of communication and access to third-party funding sources.<sup>20</sup>

The cost of the device and any additional expenses such as training for the use of the device must be considered. The occupational therapist must determine whether or not the client will be able to afford the AT and buy it out-of-pocket. If the client will have difficulty obtaining an AT due to their financial

incapability, the occupational therapist can then recommend other sources of funding. Government and non-government organizations have programs for the provision of AT services. Persons with disabilities can also use their persons with disabilities card to receive discounts during the purchase of assistive devices. Examples of government-funded sponsorship include the Department of Social Welfare and Development (DSWD). Additionally, the client may also seek assistance from other offices such as the Department of Social Welfare and Development (DSWD) Field Offices, Philippine Charity Sweepstakes Office (PCSO),<sup>17</sup> and the Social Security System (SSS) which also assists their members.<sup>25</sup>

During the client's fitting of the AT, occupational therapists must be mindful of taking and recording the right measurements of the client. Occupational therapists must consider the client's current physiological state such as the presence of limb edema, tightness, and contractures that could affect the accuracy of measurements. In addition, available muscle strength and bilateral coordination also need to be determined if it is sufficient for the client to use switches or hold handle certain AT devices with two hands. Lastly, the possibility of outgrowing the device in the future must be taken into account such as in the cases of pediatric clients. As the child grows in body, the size of the devices needs to be adjusted to ensure the proper fit of the device.

Finding AT supply in local settings or international settings can be challenging. Since AT services and provision are not common in the Philippine setting, it may be difficult to identify where to find distributors that sell the device and would allow the testing of the AT device for the client. Currently, easily available ATs in the market are mostly mobility aids such as canes, walkers, and wheelchairs. But those that are available in medical stores are usually made in standard sizes and are not adjustable. International AT supply can be viewed and purchased online. But here, testing of the AT is not possible unless there are local distributors and the device is available in their physical store.

Maintenance and repair of devices are also considered during this phase. Upon finding an AT supplier, it is necessary to ask regarding the care

and maintenance of devices such as repairing loose bolts, changing handle grips, and applying oil if necessary. If the device is faulty after some time, information regarding the device warranty must be available, this includes the contact person, contact number, and location of the supplier and is easily accessible to the client.

**Phase III: Implementation Phase of AT Services.** Implementation emphasizes the seamless use of the AT to help the client successfully perform desired activities and occupations. Therapists must have thorough knowledge and understanding of the contextualized use of an AT. This can be achieved by gathering essential information from the clients and their families regarding the perceived need and benefits of an AT when incorporated into their daily, meaningful occupations.<sup>20</sup>

AT can be beneficial and effective when training occurs in the actual environment of a client. There is a risk of it becoming inadequate or inappropriate when an activity is done away from the actual environment where the device will be ideally used and implemented.<sup>20</sup> Therefore, it is ideal for AT training to be as contextualized as possible. If doing so cannot be achieved, OTs can perform this phase through simulation in the closest possible environment to facilitate the generalization of skill.

Lack of training is one of the reasons why AT devices are not used by the client.<sup>20</sup> Training of AT use is not only limited to the actual, effective use of the device but also equipping the client and caregiver with the necessary knowledge regarding the device and its maintenance as this facilitates a smooth, long-term use of the device, decreasing the possibility of abandonment. In addition, the amount of time needed for training and familiarity with the device must also be considered. For example, mobility training using AT in indoor and outdoor environments will take more time compared to training a client to use dressing aids.

Specific and time-bound goals are set to facilitate effective monitoring of the client's progress and family education. For example, families prefer to receive instructions, training, and relevant information that are contextualized to the client's perceived needs and goals. Similarly, education for older clients requires a different

approach by simplification, modification, and increased cues in training, especially if they have declining cognitive functions.<sup>20</sup>

**Phase IV: AT Outcomes Assessment.** An essential element of any thorough intervention plan is a follow-up or continuous quality improvement. The therapist needs to identify the successful use of the AT in the client's daily occupations. Feedback from the client and family is essential to improve the service delivery model and to make the necessary changes as needed.

Ideally, the ultimate goal for AT services is to ensure that the client achieves the highest level of independence in all valued occupations with the use of an AT. A review of the client's occupational performance within his/her environment is needed. Carefully examining how the client engages and/or participates in completing assigned tasks or his/her rated performance satisfaction/dissatisfaction will help the therapist in deciding whether the client still needs to continue training or can be recommended for discharge.

Similarly, the therapist also needs to evaluate the issued AT to check if it is being used and maintained properly. If the AT is found to require modification, repairs, or replacement, the client with the help of the therapist, may contact the AT supplier for the necessary adjustments. The therapist then should also provide client/family education on the continuous maintenance of the current or new AT.

#### UTILIZATION OF THE MODEL

The suggested guide questions per phase are provided in Table 1. This is to ensure that the therapist can gather the necessary information from the client to help them access and acquire the best possible assistive technology service that matches their needs, resources, abilities, and the environment within their context. Some questions may or may not be suitable for the client. Use the guide questions accordingly; the therapist may also add and modify the questions in accordance with the client's status and needs.

**Table 1.** Suggested guide questions per phase of the SAKLAY service delivery process.

<b>SUGGESTED GUIDE QUESTIONS PER PHASE</b>	
<b>Phase I: Evaluation and intervention planning</b>	
<ul style="list-style-type: none"> <li>• What are occupations the client values and needs to perform successfully?</li> <li>• What are the client's roles, routine, and responsibilities?</li> <li>• What is the client's perception of his/her current situation and the possible courses of intervention?</li> <li>• What are the client's long-term and short-term goals?</li> <li>• What are the client's person factors that can affect his/her capability to perform specific occupations in his/her context?</li> <li>• What are the client's environmental factors that affect his/her capability to perform specific occupations in his/her context?</li> <li>• What AT devices are appropriate based on the client's person and environmental factors, occupations, roles, routines, and responsibilities?</li> <li>• Will the recommended AT be appropriate or useful in the client's context?</li> </ul>	
<b>Phase II: AT Identification</b>	
<ul style="list-style-type: none"> <li>• Can the client personally finance the purchase of the specific AT product or service?</li> <li>• Is there an identified funding stream for the client to obtain an AT device?</li> <li>• Does the client have medical insurance (private or government funded)?</li> <li>• Is there an available charity institution that could fund the client's AT?</li> <li>• Is there a non-profit organization that could fund the client's AT?</li> <li>• Is there a government agency that could fund the client's AT?</li> <li>• Does the client have a PWD ID?</li> <li>• Is the AT product or service available within the client's location?</li> <li>• Can the AT product be obtained locally or internationally?</li> <li>• Does the supplier accept PWD discounts or medical insurance?</li> <li>• Should the client's measurements be obtained for the AT product acquired?</li> <li>• Is the client's physiological and psychological state considered?</li> <li>• Is the possibility of outgrowing the device (such as with pediatric clients) considered?</li> </ul>	
<b>Phase III: Implementation phase of AT services</b>	
<ul style="list-style-type: none"> <li>• Did the client and therapist collaborate on an intervention plan?</li> <li>• Are the goals clearly defined and measurable to monitor the client's progress?</li> <li>• Are the client and caregivers trained to effectively use the device?</li> <li>• Is both the client and therapist knowledgeable on the AT product or service?</li> <li>• Is the intervention implementation on the use of an AT contextualized?</li> <li>• Is the client and therapist knowledgeable on the maintenance of the product or service?</li> <li>• Is there training available for the therapist and client when the AT product or service is purchased or obtained?</li> <li>• Are there facilities that have available training services?</li> <li>• Are there other professionals the client can collaborate with to further improve his/her use of an AT product?</li> </ul>	
<b>Phase VI: AT Outcomes assessment</b>	
<ul style="list-style-type: none"> <li>• Is the client able to reach all of his long-term/short-term goals?</li> <li>• Is the client satisfied with the outcomes of the intervention?</li> <li>• What is the clients/caregiver's feedback regarding their experience of using AT?</li> <li>• Is the client able to use the AT device independently within his/her context?</li> <li>• Is there a need to continue/end the use of the AT product or service?</li> <li>• After its use, is the AT product in need of modification, repairs, or replacement?</li> <li>• Is the client/caregiver able to maintain the provided AT? Is re-education needed?</li> <li>• Will there be any recommendations or referrals to other professionals?</li> </ul>	

**CASE STUDY**

This is the case of M.L., a 17-year-old male diagnosed with total blindness. He is referred to occupational therapy for functional mobility and

education participation. The client uses public transportation to go to school. He uses his mobile phone mostly as his primary tool for communicating with his classmates, listening to music, and reading notes through an application



that scans texts. In this case study, an occupational therapist demonstrates how SAKLAY can be used as a guide in helping this client.

**Phase I: Evaluation of AT Services.** In Phase I, the occupational therapist will focus on the three important elements which are the Person, Environment, and Occupational Participation.

**P – Person.** The occupational profile can include the financial capability of the client, culture, attitude toward obtaining AT, and familial support can also be identified. Client factors such as motor skills and cognitive skills will also be assessed to determine the client’s skills in interfacing with an AT.

**E – Environment.** The occupational therapist can utilize environmental assessments such as acquiring a floorplan of their house and visiting their school. Public transportation barriers can be identified through an interview, video analysis, and/or observation. The client may also be asked about high-tech devices that he uses for school which can then be used for intervention.

**O – Occupation.** Dynamic performance analysis of his ability to study, navigate, and perform in school can also be assessed by direct observation of the client in class and reports from his parents and teachers in providing him with tasks that are modified for his situation.

**Phase II: AT Identification.** In Phase II, the occupational therapist can identify the three factors needed for assistive device identification: Identifying the AT with M.L. and his family, identifying the supplier, and the source of funding.

**Identifying the AT with the client.** Identification of an appropriate cane that matches his needs will be implemented. Mobile applications that are helpful for him will be identified. The use of braille will also be assessed whether this will still be helpful for him compared to using a mobile phone application that will read texts and handwriting for him.

**Identifying the supplier.** The occupational therapist can identify specific medical stores near the client’s residence. This may also entail looking for medical stores that offer modification or restoration of the cane in case of damage. Mobile applications available in application

stores on his mobile phone will also be identified. The occupational therapist and the client may choose applications that will be useful for completing his assignments and tasks in school. The occupational therapist can recommend applications such as textbook readers, audiobooks, and podcasts that can help him during studying.

**Identify the resources.** The occupational therapist will consider the client’s financial capability in AT recommendation. In this case, the occupational therapist can recommend public and government-funded sponsorships that can provide a cane for M.L. The occupational therapist may also collaborate with his special education teacher to modify his tasks at school to match his needs.

If no funding support is available, the occupational therapist and the client may use low-tech and modified cane such as a wooden stick with a handle that can be made by a carpenter. Free and accessible mobile applications can also be utilized.

**Phase III: Implementation phase of AT services.** In Phase III, the assistive technology that the client has obtained will now be used in his targeted occupations and environment. This may entail cane training within the vicinity of his home and school, in collaboration with his family and special education teachers. Modifications can be made to remove barriers at home and in school that may impede his safety in using the cane. The occupational therapist may also collaborate with his special education teacher to modify his tasks at school to match his needs. There may also be a need to modify the client’s room assignment wherein he shall be seated near the teacher for him to be able to hear them clearly. Decreasing his travel in between rooms and verbal dictation of what is written on the blackboard can be recommended. Safety precautions and universal design can be recommended to his teachers in the classroom and school administration to provide an inclusive and safe environment for the client and those with visual impairments.

**Phase IV: AT Outcomes Assessment.** Re-assessing his participation in education and functional mobility in school will also be done to check whether the client would be needing more

AT. Further recommendations to other specialists and experts can also be made to support his education and functional mobility.

## LIMITATIONS

SAKLAY was developed as a general guide for the service delivery of AT devices and services in the Philippines. Occupational therapists are expected to employ clinical reasoning to determine specific evaluation and intervention procedures and training protocols that are appropriate for their clients and their context. This model does not guarantee its users' success in sourcing funding for AT. Furthermore, the scope of SAKLAY does not include the design and development of AT but serves as a guide for occupational therapists in the service delivery process of AT in the Philippines.

## CONCLUSION

The SAKLAY service delivery process is a contextualized guide to the assistive technology service delivery process based on relevant theoretical frameworks and models of practice in AT. It aims to help clients access and acquire the best possible assistive technology service that matches their needs, resources, abilities, and environment within the Philippine context. The four phases of the model emphasized the following: (1) evaluation and intervention planning with the client, his/her occupation, and relevant contextual factors as guided by the PEOP model, (2) identification of an appropriate AT, particularly fitting, funding sources and AT supply, (3) implementation of AT to ensure effectiveness and successful integration in daily occupations and (4) AT outcomes assessment for feedback and continuous quality improvement. Further studies are still needed to explore how occupational justice, Filipinos' attitudes, culture, and lack of knowledge regarding the AT service delivery process can influence the use and continuous development of this model.

## Individual Author's Contributions

All authors contributed equally.

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## Conflicts of interest

The authors declare no conflict of interest.

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