

Learning Ecosystem Development Model Enhancing Vocational Skills for Visually Impaired Students: A Case of The Northern Region School for the Blind under the Royal Patronage of Her Majesty the Queen, Chiang Mai Province

Chayut Khakhanmalee

Northern Region School for the Blind under the Royal Patronage of
Her Majesty the Queen, Chiang Mai Province, Thailand

chayut0114@gmail.com

ABSTRACT

For visually impaired students, the Northern Region School for the Blind under the Royal Patronage of Her Majesty the Queen, Chiang Mai Province employed the BLIND Model for Administrative Management. This model consists of B: Blind Student Center, which is a learning management to develop vocational skills focusing on students with visual impairment; L: Active Learning, which emphasizes hands-on practical experience for students; I: Innovation is teachers applying innovative methods to enhance students' vocational skills; N: No One Left Behind is that all students are trained in vocational skills thoroughly and D: Developmental Eco System is a place that has developed a learning ecosystem to promote vocational skills for students with visual impairment. All component is interrelated and propelled by the Design Thinking theory, comprising five steps: Step 1, Empathize - Understand the problem; Step 2, Define - Clearly define the issue; Step 3, Ideate - Brainstorm; Step 4, Prototype - Create chosen prototypes; and Stage 5, Test – Examine. Learning management in the form of a vocational learning base consists of 1) Coffee base, 2) Thai massage base, 3) Fish farming base, 4) Broiler chicken base, 5) Poultry base, 6) Swine farming base, 7) Music base, 8) Sports base, including are goalball, swimming, cycling, 9) Chiang Da vegetable processing base, and 10) Magic beads base. The operations are conducted using systems theory, comprised of the analysis of Input, Process, Output, and Outcome. These were core processes that teachers employ in the management of vocational teaching and learning activities, aimed at enabling students to achieve success according to the set objectives which are; 1) to develop vocational skills for visually impaired students using Learning Ecosystem Development Model. 2) To enhance teacher's skills in learning management to promote vocational skills for students with visual impairments and 3) To develop vocational training resources for the visually impaired students and the community. The data were obtained by the semi-structured interview and observation method. The content analysis method was used in data analysis. According to the findings of the study, the students with visual impairments possess vocational skills that align with their aptitudes and interests and achieve vocational skill development.

Keywords: development of vocational skills, visually impaired students, the BLIND Model for administrative management, learning ecosystem

Introduction of the Best Practice

Occupation is considered vital and necessary for all human beings, both at the individual and social level. That is, at the personal level, it can be said that everyone's occupation plays a crucial role in determining survival, quality of life, and overall well-being, status, as well as various factors necessary for living. As for the social level, work or occupation is a device that determines or divides the roles and responsibilities of each person, contributing to diversity and similarity among people in society. It generates subsidized income and supports livelihoods, resulting in benefits that impact the quality of life for individuals in society and the nation. One crucial factor that contributes to ensuring sustainable employment or professions is education. In today's society, it is believed that education is the most powerful tool for human development, as quality education helps enhance human learning capabilities, enabling them to apply knowledge for personal benefit, secure stable work or professions, contribute to societal and national development, and drive positive change with prosperous progress.

The National Education Plan, B.E. 2560-2579, which is a component of the third strategy for fostering a culture of learning and realizing people's potential at all ages. One of the goals is to improve people's quality of life to the best of their ability and to provide people of all ages with the information, skills, and competences required by professional and educational standards. Students are equipped with skills that are appropriate for their age group and are developed and empowered. They receive high-quality development encompassing knowledge, vocational skills, life skills, work skills, as well as ethical values. They possess a sense of social responsibility, adaptability, and the ability to collaborate with others in society. This is especially crucial due to the rapid and profound changes brought about by current global trends, impacting various aspects including science, technology, economy, society, and others (The Secretariat of the Council of Education, 2017). These changes are widespread and significantly impact our way of life. Especially for students with diverse disabilities and variations in skills, abilities, and learning, competence and learning are even more necessary to receive opportunities to promote and develop appropriate vocational potential. This is necessary for achieving a good quality of life without being a burden on society in the future. The aim is to enable these individuals to not burden society, but rather to empower themselves and contribute to society (Khemika Phanwilai, 2003). Giving disabled individuals the chance to obtain education catered to their unique limitations and disabilities would help achieve this. Since children with disabilities require a high-quality education, educational management in schools needs to be structured accordingly. Proficient educational administration encompasses aspects of education quality related to career advancement in addition to academic success. Encouraging students to employ their knowledge and skills learned in school to support themselves and their families in their careers without becoming a burden on society is one way to achieve this goal through improving their vocational skills.

Justification of Best Practice Implementation

It is crucial that visually impaired students acquire vocational skills, and schools must offer instruction to support students with impairments from early childhood to foundational education levels education. In order to give students a wide range of possibilities to experience a number of various vocations, it is necessary to modify instructional approaches. They become aware of their potential with various limitations and learn about the occupations they excel in. This is done to make sure that pupils are ready to contribute

to society. Following their graduation, they will be able to support themselves financially without being a burden on their parents or the community by using the knowledge, abilities, and occupational skills they have acquired in school. Providing visually impaired students with opportunity to learn about different vocations is crucial for their optimal vocational skill development. Until students can discover their abilities, their aptitude and potential, or discover suitability in a career, they should cultivate good qualities and practice the necessary skills in order to prepare for professional engagement. Vocational learning resources let students gain professional experience. It is also imperative that educators and parents concur that pupils can acquire skills that will enable them to work for themselves in the future. In the future, this will strengthen and expand the collective strength of society and the country.

Therefore, it has developed a learning ecosystem in the school to be a source of learning with a focus on vocational skill training for visually impaired students. This is aimed at enhancing knowledge in vocational skills and innovation that corresponds to and addresses issues within the educational context, which will lead to the development of both teacher and student quality to the specified educational standards. Additionally, the students have vocational skills for sustainable success in their professional pursuits upon completing their education.

Objectives of Implementation

The objectives of best practice implementation are:

1. To develop vocational skills for visually impaired students using Learning Ecosystem Development Model.
2. To enhance teacher's skills in learning management to promote vocational skills for students with visual impairments.
3. To develop vocational training resources for the visually impaired students and the community.

Best Practice Implemented

The BLIND Model for Administrative Management of the Northern Region School for the Blind under the Royal Patronage of Her Majesty the Queen, Chiang Mai Province

The BLIND Model for administrative management of the Northern Region School for the Blind under the patronage of Her Majesty the Queen, located in Chiang Mai province, is a developed framework intended for driving the management of teaching, learning, and vocational skill training for visually impaired students. Together with the fundamental educational committee, administrators, instructors, staff, students, and other pertinent stakeholders, this model was developed through an analysis of the necessary conditions. To support visually impaired students' learning and development of vocational skills, it lays a strong emphasis on improving the learning environment through synergy with essential components. All of the following are included:

B: Blind Student Center

It means the learning management aimed at developing vocational skills with the focus on students with visual impairments. There is an appropriate profession analysis in accordance with the abilities and potential of the students. It involves planning activities, skill development processes, and appropriate assessment methods that align with the nature of the learning experience and the potential of visually impaired students.

L: Active Learning

It is a term for vocational skill training that places a strong emphasis on giving visually impaired students the chance to practice in the actual world in order to properly improve their vocational abilities. Instructors must give students hands-on experience and opportunity to engage in practical tasks. With the use of this method, children can acquire resilient learning skills that they can use in everyday life.

I: Innovation

It refers to teachers using innovative approaches instructional management to develop the vocational skills of students. These innovations are created by the teachers themselves to meet the specific needs of visually impaired students.

N: No One Left Behind

It means that all students receive comprehensive vocational skills training. Without discrimination, both students with visual impairment and those with visual impairment and other disabilities as well. The training emphasizes on the training of appropriate vocational skills that are in line with the potential of individual students, enabling them to apply these skills effectively in real-world scenarios. The ultimate goal is to equip students with the means to lead independent lives and pursue self-sustaining careers in the future.

D: Developmental Eco System

It means that schools are developing an inclusive learning ecosystem to promote learning and vocational skills for students with visual impairments to effectively develop their vocational skills.

The development of a learning ecosystem to enhance vocational skills for visual impaired students

The Northern School for the Blind under the Royal Patronage of Her Majesty the Queen ,Chiang Mai Province has developed a learning ecosystem to promote vocational skills for students with visual impairments in order to effectively implement vocational skills training with cooperation and coordination of various components. It is essential and necessary to practice professional skills that will support a learning atmosphere for all sectors to develop themselves to their full potential, consisting of five main elements as follows (Thammasat University Demonstration School, 2021):

1. Students are individuals seeking growth, exploration in learning, and are lifelong learners.
2. Families play a supportive role in learning.
3. Schools are preparations for growth, collaborate and provide learning resources.
4. Teachers understand various sciences in essence and connects them, design the learning process, inspire, and be mentors. Society and communities serve as valuable resources for direct experiences, support, and collaborative sharing.

The development of a learning environment to promote careers for visually impaired students involves the following components (Dalto, J. 2019):

1. Organizational Culture likes learning culture. The organizational leaders must support the learning of personnel within the organization, etc.
2. People in an organization are at the heart of the learning and learning ecosystem in an organization, which includes people at all levels of an organization. Everyone needs to play a role in the learning ecosystem and benefit from it.
3. The curriculum content of the learning environment system involves bringing individuals within the organization together along with essential learning content. It emphasizes the development of quality and accessibility of crucial learning content according to the needs.
4. Technology plays a vital role in establishing a robust learning ecosystem. This includes utilizing technology to support various operations, providing access to computers and devices, media tools, facilities tailored to students with visual impairment, and technology for processing agricultural products, etc.
5. Learning strategy helps achieve learning goals and develop a collaborative learning ecosystem. It starts with understanding the organization's goals, support learning and work practices in line with that goal and continual development.

It can be said that the components of a learning ecosystem can be divided into two types, namely the Living Components in Learning Ecosystem and the Non-Living Components (EdTech Center World Education, 2019).

Systems Theory

The planning of vocational skill development for visually impaired students involves teachers using systems theory to analyze the workflow process. This aims to ensure the efficiency and effectiveness of vocational skill training outcomes. There are four components as follows (Chantarane Songwannam, 2002):

1. Input involves resources or things that are necessary to be brought into the system for the implementation of vocational skills development for students with visual impairments, such as students, curriculum, materials, personnel budgets, etc.

2. Process refers to the transformation of inputs or resources into outputs such as educational management, curriculum and teaching management, measurement and evaluation that corresponds to the potential of students.
3. Output means the outcome that emerges from the process of applying factors to achieve effectiveness according to the objectives set for vocational skill training.
4. Outcome refers to the successful results of promoting vocational skills for visually impaired students, which may be something anticipated or previously unforeseen.

Organizing Vocational Learning Bases of the Northern Region School for the Blind under the Royal Patronage of Her Majesty the Queen, Chiang Mai Province

It can be concluded that the concept of education management to promote career education aims to give students a rational idea of their work, accumulate knowledge and skills necessary for work, know how to seek opportunities and channels to work and explore stepping into the world of work. The period of acquiring knowledge in basic education institutions is crucial for the development of knowledge, skills, and positive attitudes through education, training, and practical experience. This helps students make informed decisions for further education and future work. This aligns with Thailand's education policy outlined in the National Education Development Plan 2017-2036 (Office of the Education Council, 2017).

To be consistent with the policy of the Office of the Basic Education Commission, the Northern Region School for the Blind under the Royal Patronage of Her Majesty the Queen, Chiang Mai Province therefore has promoted vocational skills for students with visual impairments in vocational learning bases. This involves analyzing the necessary requirements and potential for vocational skill training among the students, as well as evaluating the readiness of the educational institution. Subsequently, a plan was developed to establish a vocational learning base that encompasses and aligns with the outcomes derived from the aforementioned analysis. This vocational learning base comprises 10 vocational bases, including: 1) Coffee base, 2) Thai massage base, 3) Fish farming base, 4) Broiler chicken base, 5) Poultry base, 6) Swine farming base, 7) Music base, 8) Sports base, including are goalball, swimming, cycling, 9) Chiang Da vegetable processing base, and 10) Magic beads base. The school has organized in the form of supplementary subjects and extracurricular vocational skill training.

For the area of establishing vocational learning bases for visually impaired students, the Northern Region School for the Blind under the Royal Patronage of Her Majesty the Queen Chiang Mai Province comprises: 1) Vocational learning bases within the school located at No. 41 Phra Sing Sub-district, Muang District, Chiang Mai Province ;2) Vocational learning bases within the vocational training center of the school located at No. 68 Moo 10, Nong Han Sub-district, San Sai District, Chiang Mai Province; and 3) Vocational learning bases with network partners such as private swimming pools, agricultural product companies, etc.

Enhancement of Vocational Skill Operations for Visually Impaired Students at the Northern Region School for the Blind under the Royal Patronage of Her Majesty the Queen, Chiang Mai Province Applying the Learning Ecosystem Development Model

The operations of promoting vocational skills began in academic year 2022. It involved the development and enhancement of the learning ecosystem to foster vocational skills for visually impaired students, as follows:

1. An analysis of suitable management model for promoting vocational skills for visually impaired students and serving as a framework for managing operations is the BLIND Model for administrative management. The development of the learning ecosystem is a significant component.
2. An analysis of individual needs and potential for vocational skills training of students with visual impairments.
3. An analysis of careers that is consistent with the needs and potentials of the vocational skills training of visually impaired students.
4. Establishment 10 vocational learning bases derived from the analysis of students and appropriate career as 1) Coffee base, 2) Thai massage base, 3) Fish farming base, 4) Broiler chicken base, 5) Poultry base, 6) Swine farming base, 7) Music base, 8) Sports base, including are goalball, swimming, cycling, 9) Chiang Da vegetable processing base, and 10) Magic beads base.
5. An analysis of the learning ecosystem development model to promote vocational skills for visually impaired students.
6. Administrators, teachers, staff, and all parties involved collaborate to plan the implementation of vocational skills training for visually impaired students.
7. Teachers of each vocational learning base plan learning activities to develop the vocational skills of students with impairments by applying systems theory and design thinking theory, as well as determining measurement and evaluation that are consistent with student potential.
8. Implementation of vocational skills training for students with visual impairments according to the specified operational plans.
9. Supervision, follow-up, and performance evaluation, divided into pre-operational assessments during operation and post-operation.
10. Summary of the progress and feedback provision for the vocational skills promotion development model. The students and all relevant parties have opportunities in giving feedback. This includes expressing opinions, suggestions, and recommendations for the ongoing improvement of the operations.

Impact of Best Practices Implemented

Table 1

Table below shows students participation in vocational learning bases in academic year 2022 (out of 111 students)

No.	Vocational learning bases	Number of participations	Percentage
1.	Coffee base	6	5.41
2.	Thai massage base	10	9.01
3.	Fish farming base	7	6.31
4.	Broiler chicken base	7	6.31
5.	Poultry base	8	7.21
6.	Swine farming base	8	7.21
7.	Music base	20	18.02
8.	Sports base	15	13.51
9.	Chiang Da vegetable processing base	10	9.01
10.	Magic beads base	20	18.02
Total		111	100

Table 1 shows that 100 percent of the visually impaired students participated in vocational learning bases and possess vocational skills that align with their aptitudes and interests. The students participated most in music base and magic beads base due to it is consistent with the needs and potentials of the visually impaired students with multiple disabilities. In fact, the students can participate in all bases, the number of participations in Table 1 was those of the students who chose each base for their first needs.

According to the development of vocational skills for students with visual impairments applying a learning ecosystem development model to promote vocational skills for visually impaired students in the Northern Region School for the Blind under the Royal Patronage of Her Majesty the Queen, Chiang Mai Province has resulted in the development of students, teachers, educational institutes and communities as follows:

1. Students with visual impairments possess vocational skills that align with their aptitudes and interests. They can apply these skills in their future careers to support themselves. Additionally, they achieve vocational skill development, such as being selected as national athletes and receiving awards in both national and regional sports competitions. Moreover, they are capable of producing and presenting their own products, like 'Chiang Da' tea products, able to show their potential in music, and receive awards both regionally and nationally. Students have a stable career and are able to provide for themselves and their families upon graduation, etc.
2. Teachers have self-improvement in learning management to promote vocational skills for students with visual impairments, able to manage vocational learning effectively. Moreover, they are able to serve as guest speakers to share knowledge and experiences with interested individuals.
3. School has high-quality vocational learning resources. Students with visual impairments are capable of utilizing the vocational skills they have acquired to pursue careers that will sustain them in the future.

4. The community can access the school's vocational learning resources effectively and make use of the services provided by the school's learning centers.

Summary and recommendations

A learning ecosystem is a framework that encourages and facilitates learning, giving students the chance to grow intellectually and personally. It gives them the tools they need to survive in the 2030 world. The goal of the learning ecosystem is to enhance student learning through the planning, development, and design of the classroom environment. This establishes a methodical interaction between the school's classrooms and other exterior areas, such houses and other places (Kondratova, et al., 2017). The learning ecosystem development model has been organized to promote vocational skills for students at the Northern Region School for the Blind under the Royal Patronage of Her Majesty the Queen, Chiang Mai Province. The key essence lies in collaboration, mutual development, and shared goals among school administrators, teachers, and students. This includes providing everyone with opportunities to contribute ideas for development, particularly in the realm of vocational learning design. It involves defining vocational learning bases that align with students' interests and context. The learning ecosystem development model to promote vocational skills for students with visual impairments of the school utilizes the BLIND Model for administrative management. In this approach, all components are interrelated and driven by the principles of Design Thinking. This is used to structure vocational learning and executed through a systemic approach, which serves as the core process teachers employ for vocational teaching. It involves defining the learning components for each profession, organizing learning activities, as well as assessment and evaluation processes, to ensure students achieve the set objectives successfully.

References

- Chaichet Haschaiyo. (2013). *Education for Career Development*. Secondary Education Service Area Office, Region 16.
- Chantarane Songwannam. (2002). *Theory and Practice of School Administration*. Bangkok: Book Point.
- Dalto, J. (2019). *Conditions of Learning Ecosystem Suitable for the Thai context*. Bureau of Educational Standards and Learning Development Education Council Secretariat Ministry of Education. Bangkok.
- Demonstration School of Thammasat University. (2021). *Conditions for managing an appropriate learning ecosystem with the context of Thailand*. Bureau of Educational Standards and Learning Development. Secretariat Education Council, Ministry of Education. Bangkok.
- EdTech Center World Education. (2019). *Conditions of Learning Ecosystem Suitable for the Thai Context*. Bureau of Educational Standards and Learning Development Education Council Secretariat Ministry of Education. Bangkok.

- Khemika Phanwilai. (2003). *Trends in Employing People with Disabilities in Chiang Mai Province*. A Master's Thesis in Social Sciences, Chiang Mai University.
- Kondratova, et al. (2017). “*Design Considerations for Competency Functionality within a Learning Ecosystem*.” Learning and collaboration technologies: Novel learning ecosystems. Cham: Springer International Publishing.
- Ministry of Education. (2002). *Guidelines for Promoting Skills and Creating Professional Experience for Students*. Basic Education Core Curriculum B.E. 2551. 2nd edition. Bangkok: Thailand Agricultural Cooperative Assembly Limited.
- Ministry of Education. (2005). *National Education Act B.E. 2548*. Bangkok: Teachers Council of Thailand Printing House Ladprao.
- Office of the Basic Education Commission. (2011). *Guidelines for Providing Basic Education for Careers*. Research findings. Bangkok: Sriboon Computer Ltd., Part. - Printing.
- The Secretariat of the Council of Education. (2017). *National Education Development Plan B.E 2560-2579*. Secretariat Office of the Education Council. Bangkok.