# Communication Model for Knowledge Management and Skill Development for Students with Learning Disabilities at Surin Province

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**ABSTRACT:** *This study is Communication Model for knowledge management and skill development for students with learning disabilities at Surin Province. The objectives were: (1) To develop a communication model for knowledge management aimed at enhancing the skills of students with learning disabilities in Surin Province. (2) To develop a learning kit for skill development tailored to students with learning disabilities in Surin Province. (3) To study the perceptions and practical applications by teachers, school directors, educational supervisors, and education personnel in Surin Province. The research process consists of three phases: Phase 1: Development of a Knowledge Management Communication Model. This phase involves collecting data through interviews, observations, and related documents. The data is synthesized using triangulation methods to construct a knowledge management communication model. Phase 2: Development of Learning Modules. The content is synthesized and creative learning materials are developed, including narrative articles, infographic illustrations, and videos. These materials are disseminated through knowledge exchange activities. Phase 3: Data Collection on Perception and Utilization Data is gathered from a sample group comprising 623 participants, including teachers, school principals, educational supervisors, and education personnel in Surin Province. Data collection is conducted using both closed-ended and open-ended questionnaires, with analysis through descriptive statistics, such as mean, standard deviation, and inferential statistics.*

*The results revealed that: Communication and Knowledge Management Model 3WCE for Developing Skills of Students with Learning Disabilities in Surin Province. The Development of a Learning Package for Skill Development of Students with Learning Disabilities in Surin Province. The process of communication for knowledge management in this study involved collecting and synthesizing data from various sources, including interviews with teachers, school administrators, parents, and students at Ban Nong Ka School in Surin Province, as well as relevant documents. The collected information was used to develop narrative articles, infographic illustrations, and videos by 3P (Pre-Pro-Post Production). The perceptions of knowledge management communication among 623 participants revealed the following: Perceptions from Media: The highest level of perception was achieved through video media, with a mean score of 4.57 (SD = 0.71). Perceptions of Practical Skill Instruction: Rank 1: Teachers demonstrated tasks repeatedly from start to finish, with a mean score of 4.89 (SD = 0.33). Perceptions of Student Skill Development Rank 1: Development of motor skills (e.g., coordination of body parts), with a mean score of 4.82 (SD = 0.44). Perceptions of Learning Factors for Students with Learning Disabilities: The highest-rated factor was the role of parents in skill development for students with learning disabilities, with a mean score of 4.78 (SD = 0.46). The perceptions of teachers, school principals, educational supervisors, and education personnel in Surin Province revealed statistically significant differences ($p < 0.05$) in their engagement with different types of materials: reading narrative articles, viewing infographic illustrations, and watching videos. Additionally, there were statistically significant differences ($p < 0.05$) in their understanding and perception of teaching practical skills based on Woodruff's model and the instructional methods for practical skills. This included detailed and clear demonstrations by teachers during instructional sessions. Teachers can apply training methods to enhance student learning, trust-building, and daily life skills. Creating a safe learning environment boosts student confidence and support, implementing support systems for students' emotional well-being and addressing at-risk behaviors. PLCs help teachers exchange ideas and improve their teaching methods. And Inclusive education and community engagement improve learning outcomes and create a safer school environment.*

**Keywords:** Communication Model, Knowledge Management, Skill Development

## 1. Introduction

Education forms a vital foundation for individual and societal development. The enhancement of learners' potential is guided by the 2008 Basic Education Core Curriculum, focusing on five core competencies: communication, critical thinking, problem-solving, life skills, and technological proficiency (Ministry of Education, 2008). In the context of the 21st-century digital age, these competencies are crucial, especially for students with learning disabilities (LD). Learning disabilities (LD) are commonly associated with challenges such as attention deficit hyperactivity disorder (ADHD) and depression, affecting 5% of primary school students globally, with severe cases accounting for 1-2% and milder cases for 3% (Thairath Online).

In Surin Province, the Ban Nong Ka School addresses the needs of students with LD by adopting tailored teaching strategies, such as individualized education plans (IEPs) and the Woodruff framework for skill development. The approach aligns with Simpson and Brown's (1977) perspective on effective practical skill instruction, emphasizing consistent practice to enhance motor coordination, cognitive abilities, and social interactions. The school's targeted interventions have reduced the number of LD students from 35 in 2018 to 25 in 2022.

Despite these successes, there remains a lack of widespread communication and dissemination of these practices. Therefore, the researcher aims to develop a communication model for knowledge management to share effective strategies for improving the skills of students with LD. The dissemination channels include knowledge-sharing forums, articles, infographics, and videos to enable broader adoption across educational institutions in Surin Province. This initiative is expected to significantly contribute to the educational development of students with special needs on a wider scale.

## 2. Purpose of Research

2.1 To develop a communication model for knowledge management aimed at enhancing the skills of students with learning disabilities in Surin Province.
2.2 To develop a learning kit for skill development tailored to students with learning disabilities in Surin Province.
2.3 To study the perceptions and practical applications by teachers, school directors, educational supervisors, and education personnel in Surin Province.

## 3. Literature Review

### Communication Model

Harold Lasswell's communication model, introduced in 1948 and cited by Worawi Kaewmanee and Dandusit Proananon (2022), highlights the essential elements of a complete communication process. It is structured around key questions that reflect the interrelation between the sender, receiver, message, method, and outcomes of communication. The model can be summarized as follows:
1. Who: Refers to the sender or the communicator, such as a teacher or lecturer delivering a message to learners or listeners.
2. Says What, with What Purpose: Refers to the content the sender intends to communicate and the purpose behind it, such as providing knowledge or sharing information.
3. By What Means, in What Channel: Refers to the methods or channels used to deliver the message, such as speaking, writing, or utilizing multimedia and technological tools to ensure efficient message delivery.
4. To Whom, in What Situation: Refers to the target audience receiving the message, which may vary by group and require different teaching or communication approaches based on the context.
5. With What Effect, Immediate and Long-Term: Refers to the outcomes of communication, both immediate and over time, such as learning achievements or behavioral changes resulting from the message.

Applying this concept to instructional design and mass communication enhances the clarity and effectiveness of the communication process. It ensures alignment between content, delivery methods, and target audience needs, fostering successful outcomes in both educational and communication contexts.

### Knowledge Management Communication

Knowledge management communication involves collecting, sharing, and applying knowledge to enhance work quality and foster a learning organization. This process begins with systematically organizing knowledge, such as

research, teaching materials, and useful data, using technologies like Learning Management Systems (LMS) and databases. The knowledge is then disseminated through training, Professional Learning Communities (PLCs), and online platforms such as LINE and Facebook, enabling the exchange of best practices and professional development.

The knowledge is applied to improve teaching practices, strategic decision-making, and the development of educational innovations. Key components of knowledge management include identifying and managing knowledge, knowledge sharing, and collaborative learning. For instance, the "Fishbone Model" emphasizes leadership-driven management, promoting learning at all levels, and leveraging technology to make knowledge accessible and applicable anytime and anywhere.

Knowledge management communication in education serves as a vital tool for enhancing the quality of teaching and learning in educational institutions, ensuring effective knowledge dissemination and application for broader educational improvements. (Wanida Madbenhan, 2019; Jiratcha Wichianpanya, 2020; Kittima Jaiplueam et al., 2020)

**Development of Learning Kits**

***Woodruff's Practical Skill Instruction Model***

Woodruff's model for practical skill instruction, as described by Thisana Khammani (2013), outlines essential components for teaching psychomotor skills. These include:

1. Prototype: Providing a reference example for learners.
2. Detailed Explanation: Clearly outlining the steps of the process.
3. Demonstration: Showing the complete process with clarity and detail.
4. Re-demonstration: Repeating the entire process from start to finish.
5. Step-by-step Guidance: Demonstrating each stage slowly and simply.
6. Hands-on Practice with Supervision: Allowing learners to perform tasks under the teacher’s close supervision and mentorship.
7. Independent Practice: Enabling learners to work independently and compare their results to the prototype for improvement.

This systematic approach enhances the development of psychomotor skills and ensures that learners gain proficiency through structured guidance, independent practice, and refinement tailored to individual aptitudes. The process can be visualized as a flowchart summarizing the key steps. (Varitsanan Dechpanprasong et al,2022)

**Developing Learning Packages**

***Enhancing the Effectiveness of Teaching and Learning***

Developing learning packages refers to the design and creation of educational materials tailored to meet learners' needs. The goal is to enhance knowledge and skills through self-directed learning, following clearly defined steps that align with individual learning styles and abilities. The learning package developed in this study consists of various educational materials, including:

1. Narrative Articles: Content presented in a storytelling format to help learners relate to real-life experiences. Writing an article is a vital skill for conveying ideas, knowledge, or information to readers in a clear and effective way. A good article should have specific components to ensure it is well-structured and engaging: Title: The title should be interesting, clear, and reflective of the content. It needs to be concise yet captivating to draw the reader’s attention. Introduction: This section introduces the topic or issue at hand. It should use words or questions that spark the reader's curiosity and explain the importance or reasoning behind writing the article. Body: The body of the article should be divided into distinct paragraphs, each with a central idea or point. Use data, statistics, or evidence to support the information and build credibility. Examples or case studies can be incorporated to help clarify the main points, making complex ideas easier to understand. Conclusion: The conclusion should summarize the key points discussed in the article. It might also include personal opinions or suggestions for further thought. The final words should encourage readers to reflect or inspire action.
2. Illustrations and Infographics. Visual aids designed to enhance comprehension and engagement with the content. The Process of Design Production. Pre-Production (Preparation Stage) Objective: Establish the goals of the design, such as advertising, communication, or branding. The planning phase includes gathering relevant information such as key messages, color schemes, and design styles. A Moodboard is created to set the direction for the project. Sketching initial concepts helps in laying out the basic structure of the design. Production (Design and Creation) During this stage, the actual work is created using design software such as Adobe Illustrator, Photoshop, or Procreate. Colors are added, and appropriate color palettes are selected. Details like texture and lighting are incorporated. Revisions are

made based on feedback or suggestions from the team or client to refine the design and ensure it meets the desired objectives. and Post-Production (Review and Delivery) In this stage, the quality of the work is reviewed. The resolution of the file is checked, and colors and other visual elements are examined to ensure consistency and accuracy. Once the design meets the necessary standards, the files are delivered in the preferred formats, such as PNG, JPEG, or vector files. Finally, the files are backed up and stored for future use. (Smith, J. R., & Brown, T. A. (2020) Lupton, E. (2015) 3. Videos: Multimedia content combining visuals and audio to stimulate learning and understanding. According to Millerson, G., & Owens, J. (2012), the process of video production is divided into three main stages: (1) Pre-Production. This phase includes research, planning, goal setting, scriptwriting, and equipment preparation. The team will write a detailed script and arrange the necessary materials, personnel, and locations according to the plan. This stage ensures that everything is organized and ready for production. (2) Production: During this stage, the video is filmed according to the script using various camera techniques and angles such as Pan, Tilt, Zoom, or Dolly to achieve the desired visuals. Sound and additional footage are recorded to complete the necessary media for the video. (3) Post-Production: This phase involves editing, sequencing images and sound, adding voiceovers, and checking the quality of the final video. The project is considered complete once it has been evaluated and prepared for distribution through suitable channels, such as the internet or other media storage devices.

**Perception and Uses of Media**

Perception refers to the process of selecting, organizing, and interpreting stimuli encountered or related to one's environment. Selection occurs at every stage of the perception process because the receiver is more likely to accept information that aligns with their existing beliefs and attitudes. In this sense, perception can be viewed as a filtering process where both internal and external factors influence the way information is received. The steps of this filtering process include: Selection to receive, Selection of interest, Selection for interpretation and meaning-making, and Selection for memory retention (Apinya Kaewpremkusol, 2018).

Uses and Gratification Theory focuses on understanding the audience's active role in choosing media to satisfy their needs. McQuail, Blumler, and Brown (1972) stated that the audience assesses what they want from the media and how the media meets these needs. This theory emphasizes the audience's perspective by studying the process of selecting media content, which is related to communication behavior and the background of the recipient. The three main steps are: (1) The audience plays an active role and has objectives for communication or media consumption (2) The choice to engage with media is based on fulfilling personal needs, not merely responding to the sender's influence (3) Satisfaction with the media occurs when the selected media provides a continuous response to the audience's needs, signaling that the sender must compete to offer content that meets the audience's desires (Chaisiri Patanathaworn, Busaba Sutheethorn, and Sawanee Chinalong, 2022).

## 4. Methodology

This study adopts a research and development methodology and has received ethical approval from the ethics committee. The research process is divided into the following phases:

*Phase 1: Developing a Communication Model for Knowledge Management*

1. Data Collection

1.1 Conducting a review of educational research documents, teaching records, instructional material storage, lesson plans, and feedback from evaluations of student learning outcomes.

1.2 Conducting interviews with teachers, principals, students, and parents at Ban Nong Ka School, Surin Province.

1.3 Observing the behavior of students with learning disabilities.

2. Data Synthesis Triangulation was employed to synthesize the data.

3. Model Development: A communication model for knowledge management was created and presented to the core informants for feedback through member checking. Revisions were made until the model was finalized.

*Phase 2: Developing Learning Materials*

This phase involves creating articles, narratives, infographic illustrations, and videos based on the following steps:

2.1 Synthesizing the collected data and writing narrative articles.

2.2 Designing infographic illustrations for teaching based on the narrative articles.

2.3 Planning video production, scripting, preparing filming at Ban Nong Ka School, Surin Province, and editing to finalize the videos.

2.4 Presenting the articles, infographics, and videos to experts from the Siam Commercial Foundation, the sponsor of the knowledge exchange platform, for feedback and suggestions.
2.5 Revising the articles, infographics, and videos based on the feedback received.
2.6 Disseminating the materials through PLC Online Coaching activities in Surin Province, online platforms, and the Online PLC website.

*Phase 3: Data Collection on Perceptions and Utilization*
3.1 Sample Selection: The sample size was determined using the Taro Yamane formula (5% of the population), referencing Anon Chutiskul (2019). The study sampled 623 participants, including teachers, principals, supervisors, and educational personnel in Surin Province, from a total population of 12,067 individuals (Ministry of Education's ICT Center, 2024).
3.2 Research Instruments: A questionnaire using a rating scale was employed, divided into three parts:
Part 1: Demographic information of respondents.
Part 2: Questions on perceptions of communication for knowledge management in developing skills for students with learning disabilities in Surin Province (20 items).
Part 3: Open-ended questions regarding utilization and suggestions.

The instrument was validated by three experts, with an Index of Congruence (IOC) ranging from 0.67 to 1.00. Reliability was assessed through a pilot study with 30 participants, achieving a Cronbach's alpha coefficient of 0.972.

3.3 Data Collection and Analysis: Data were collected using the questionnaire and analyzed using descriptive statistics (mean and standard deviation) and inferential statistics (F-test) to compare perceptions across groups (teachers, principals, supervisors, and educational personnel in Surin Province).
3.4 Utilization Data Collection: Open-ended responses on utilization were synthesized for further analysis.

## 5. Result of the Research

**The Communication Model for Knowledge Management in Developing Skills for Students with Learning Disabilities in Surin Province**

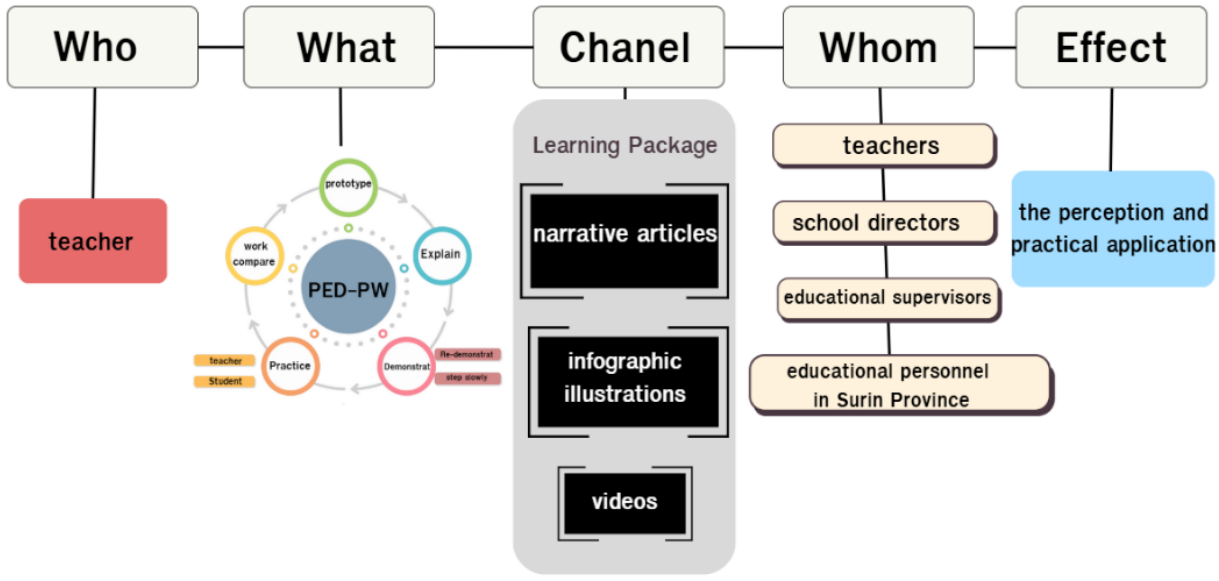


*Figure 1:* Communication Model 3WCE

**Communication and Knowledge Management Model 3WCE for Developing Skills of Students with Learning Disabilities in Surin Province:**

W: Who
This refers to Khru Jintana Phobboon, a teacher at Ban Nong Ka School in Surin Province, who serves as the source of communication for the recipients. The recipients include teachers, school directors, educational supervisors, and educational personnel in Surin Province.

W: What
The content focuses on developing the skills of students with learning disabilities in Surin Province by using a skill training process based on Woodruff's approach. The goal is to communicate this content to the target group of teachers, school directors, educational supervisors, and educational personnel, so they can understand and apply it effectively.

C: Channel
The communication channels used include written articles, storytelling, infographics, and videos. These methods serve to disseminate information to the intended recipients.

W: Whom
The recipients of the message are teachers, school directors, educational supervisors, and educational personnel in Surin Province, who are the target audience for the knowledge sharing.

E: Effect
The effect of the communication is the awareness and application of the knowledge by the recipients, enabling them to implement the skills development strategies in their educational practices for students with learning disabilities.

**The Development of a Learning Package for Skill Development of Students with Learning Disabilities in Surin Province**

The process of communication for knowledge management in this study involved collecting and synthesizing data from various sources, including interviews with teachers, school administrators, parents, and students at Ban Nong Ka School in Surin Province, as well as relevant documents. The collected information was used to develop narrative articles, infographic illustrations, and videos as follows:

**Narrative Articles:** The content revolves around the story of developing the skills of students with learning disabilities at Ban Nong Ka School, Surin Province.

Story Overview: Teacher Jintana Phobboon identified challenges in her fifth-grade classroom, where students with learning disabilities struggled to keep up with their peers and lacked joy in learning. To address this, she designed a specialized teaching plan, separate from the regular curriculum, called the “Magical Elephant for Earning Income” plan. This plan involved creating elephant-shaped hangers from natural materials readily available in the community, such as palm seeds, coconut husks, and lamtuan branches.

Using Woodruff's methodology, students were trained to develop various skills, and their progress was assessed through continuous observation. Key outcomes included:
1. Attitudes: Students gained self-esteem and a positive outlook on learning.
2. Skills: They developed craftsmanship skills, creating items from natural materials as a foundation for future careers.
3. Knowledge: Students learned about crafting techniques while integrating subjects like mathematics, Thai language, science, and vocational education.
4. Values: Creativity was encouraged, leading to innovative products such as pencil cases, hairpins, keychains, and headbands, which generated income.

Teacher Jintana emphasized her guiding principle, “Love before Knowledge”, in her care for special needs students. Her approach incorporated “Understanding, Access, and Development”, focusing on tailoring activities to the interests of her students and linking learning to enjoyable, real-world experiences.

By adopting Woodruff's seven-step methodology, the teaching process was refined into five steps:
1. P: Providing a Prototype: Teachers presented sample crafts made from natural materials found in the community.
2. E: Explaining the Process: Detailed explanations of materials, tools, and steps were provided.
3. D: Demonstrating Twice: Teachers conducted detailed demonstrations, repeating the process once.
4. P: Guided Practice: Students practiced under the teacher's supervision, with simple and clear instructions.
5. W: Independent Practice: Students worked independently, producing their crafts and comparing them with the prototypes.

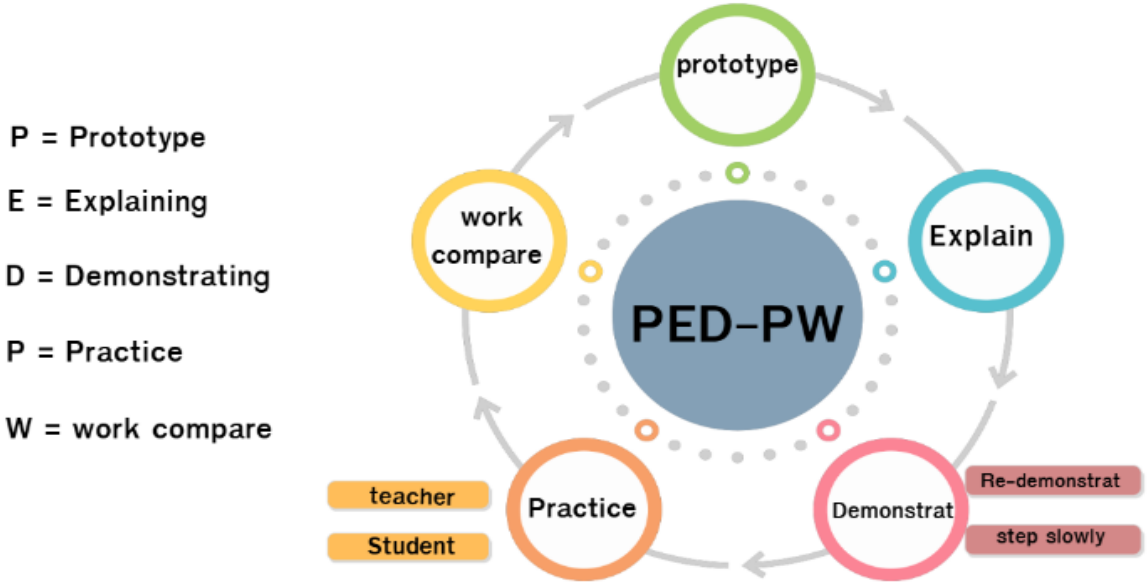


*Figure 2:* PED-PW Model

**Infographic Illustrations:** The infographic development process included:
1. Pre-Production: Setting communication objectives, gathering data, and creating initial sketches for layout planning.
2. Production: Designing the infographics using Adobe Illustrator, selecting appropriate color palettes, and incorporating feedback from stakeholders to refine the design.
3. Post-Production: Ensuring quality by checking resolution, colors, and composition, and delivering final files in PNG and JPEG formats.


*Figure 3:* Infographic Illustrations

**Videos:** The video creation followed a structured process:
1. Pre-Production: Content synthesis and scriptwriting.
2. Production: Filming at Ban Nong Ka School, involving students and teachers.
3. Post-Production: Editing video and audio to produce a polished final product.

This integrated approach demonstrates the power of combining storytelling, visual aids, and interactive media to enhance skill development and inspire students with learning disabilities, while also providing a replicable model for other educators.

*Figure 4:* Video footage

**Perception and Utilization of Narrative Articles, Infographic Illustrations, and Videos by Teachers, School Directors, Educational Supervisors, and Educational Personnel in Surin Province**

The research aimed to assess the perception of communication for knowledge management through narrative articles, infographics, and videos, which was evaluated during the learning exchange activity titled "Building a Student Support System to Develop Safe Learning Environments." This event took place on Wednesday, October 25, 2023, from 9:00 AM to 12:00 PM at Chiang Pum Conference Room, Surin Primary Educational Service Area Office 1, and online.
Participants: A total of 623 participants were involved in the study, comprising: Teachers from schools in Surin Province: 66.00% School Directors in Surin Province: 21.00% Educational Supervisors: 9.00% and Educational Personnel: 4.00%
1. Perception of Media: Participants showed high levels of awareness of the media presented: Videos: Rated the highest with an average score of 4.57 (SD = 0.71).
2. Perception of Teaching Practice for Skill Development: Key teaching practices perceived as most effective included: Demonstrating and Repeating: Teachers demonstrate tasks repeatedly from start to finish. Average: 4.89 (SD = 0.33). Hands-On Learning Opportunities: Teachers allow students to work independently under supervision. Average: 4.86 (SD = 0.40). Preparing Prototypes: Teachers prepare simple, clear prototypes and demonstrate the steps slowly. Average: 4.78 (SD = 0.47).
3. Perception of Student Skill Development: Participants perceived the following aspects of student skill development as most improved: Motor Skills: Coordination of various body parts. Average: 4.82 (SD = 0.44). Social Skills: Building relationships with peers. Average: 4.80 (SD = 0.50). Cognitive Skills: Thinking and problem-solving abilities. Average: 4.72 (SD = 0.48).
4. Perception of Learning Factors for Students with Learning Disabilities to role of Parents: Recognized as having a significant influence on the development of students with learning disabilities. Average: 4.78 (SD = 0.46).

The research highlights the effectiveness of videos as the most impactful media for communication, along with the importance of hands-on teaching practices and the role of parents in enhancing skills for students with learning

disabilities. These findings underline the potential of multimedia tools in supporting inclusive education and skill development. Analysis of Perception Differences Among Teachers, School Directors, Educational Supervisors, and Educational Personnel in Surin Province in Figure 5

| Communication for Knowledge Management | Source of Variation | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Narrative Article Reading | Between Groups | 66.309 | 3 | 22.103 | 45.967 | .000* |
| | Within Groups | 297.640 | 619 | .481 | | |
| | Total | 363.949 | 622 | | | |
| Infographic Viewing | Between Groups | 9.032 | 3 | 3.011 | 4.874 | .002* |
| | Within Groups | 382.326 | 619 | .618 | | |
| | Total | 391.358 | 622 | | | |
| Video Watching | Between Groups | 19.763 | 3 | 6.588 | 13.739 | .000* |
| | Within Groups | 296.808 | 619 | .479 | | |
| | Total | 316.571 | 622 | | | |
| Understanding and Application of Practical Teaching Techniques (Woodruff Method) | Between Groups | 2.207 | 3 | .736 | 3.093 | .027* |
| | Within Groups | 147.196 | 619 | .238 | | |
| | Total | 149.403 | 622 | | | |
| Demonstration of Practical Techniques by Teachers | Between Groups | 2.868 | 3 | .956 | 3.733 | .011* |
| | Within Groups | 158.497 | 619 | .256 | | |
| | Total | 161.364 | 622 | | | |

*Figure 5:* Analysis of Perception Result

The perceptions of teachers, school directors, educational supervisors, and educational personnel in Surin province revealed significant statistical differences at the 0. 05 level in their understanding of reading articles, viewing infographics, and watching videos. The perception and understanding of teaching practical skills based on Woodruff's approach and the instructional management of practical skills, especially when teachers demonstrate tasks in detail and clearly, showed a significant statistical difference at the 0.05 level.

*Application of Knowledge and Benefits:*
Teachers can apply the knowledge and methods gained from training to enhance classroom learning outcomes. This includes designing activities, assessing performance, and creating meaningful learning experiences. Teachers are also encouraged to create a safe space that helps students feel confident and fully supported. Furthermore, teachers can integrate student support systems to address mental health and manage at- risk students effectively. The use of Professional Learning Communities (PLC) fosters knowledge exchange, contributing to the development of both teachers' and students' potential. Additionally, the management of education is aimed at promoting equality, career building, and improving learning outcomes for all students, ensuring sustainable progress in both schools and communities.

*Support for Educational Work in Surin Province:*
1. The guidelines for learning management, focusing on student development and support, have been applied to improve the learning environment and create a safe space within schools. This includes fostering a warm classroom atmosphere, providing love and care for students, and addressing their problems effectively. These strategies help in finding solutions and promoting students' development. The application of these principles is extended to improving personal and school-based practices, emphasizing student-centered teaching and accommodating the diverse needs of students and their social contexts. Collaborative efforts between communities and schools are strengthened, leading to the development of learning plans and integrating local knowledge into the classroom, as trained by the district educational office.
2. The development of morale and motivation within the teaching profession has been highly beneficial. Teachers are encouraged to focus on their primary task of teaching and other responsibilities with commitment and dedication. They are supported in fostering students' skills, ensuring that learners can apply knowledge in their daily lives. Teachers are motivated to create enjoyable learning experiences and provide initial support for students, ultimately preparing them to become valuable resources for Surin province in the future. The development of education encourages students to become more self-reliant and acquire professional knowledge and skills.
3. Public relations and experience sharing related to student support systems have been effectively communicated and exchanged, ensuring that these practices are adapted to local contexts. Teachers collaborate and support relevant agencies to ensure smooth operations and contribute to the effective advancement of student development, maximizing their potential.

**6. Discussion**
The development of the 3WCE knowledge management communication model to enhance the skills of students with learning disabilities in Surin province is explained as follows:
W: Who refers to Khru Jintana Phobbun, a teacher at Ban Nong Ka School in Surin province.

W: What refers to the content aimed at improving the skills of students with learning disabilities in Surin province, using a skill-building process based on Woodruff's approach.

C: Channel refers to the media used for communication, which includes articles, storytelling, infographic illustrations, and videos.

W: Whom refers to teachers, school principals, educational supervisors, and other educational personnel in Surin province.

E: Effect refers to the recognition and application of the 3WCE model's impact, which helps improve the skills of students with learning disabilities in Surin province.

This development aligns with the research conducted by Chawalwat Thirachaiyaphibul, Marsri Suthanit, and Sarayut Setthakachorn (2017), titled "Development of an Effective Communication Model for Secondary School Administrators." The study found that the overall communication model for secondary school administrators had a very high level of feasibility. It identified factors such as understanding the nature of the receivers, communication skills, methods of communication, channel selection, and building human relationships. In this research, the recipients are from educational units in Surin province, and the similarity in their backgrounds contributed to the effectiveness of communication.

This also corresponds with the ideas of Sumalee Suwankorn (2016), who studied creative communication strategies for the development of Khon Kaen city. The findings indicated that creative communication strategies should start with the screening and neutral presentation of news, fostering a desire to contribute to the development of Khon Kaen. The study showed that creative communication could act as a bridge between government administration and civil society, making urban development successful.

Knowledge management communication uses video media as a tool for dissemination to ensure that recipients understand and comprehend the content. Video, being a medium that combines visuals and sound, helps enhance understanding and capture learners' attention more effectively than text-only media. The use of multimedia, such as video, integrates images, sound, and text, which promotes learning by providing multiple channels of information. This enables learners to develop a deeper understanding and retention of knowledge. This aligns with Richard Mayer's

Multimedia Learning Theory (2009), which posits that learning is most effective when it engages multiple senses. This is supported by the studies of Jungpanich and Srisailaun, which examined the impact of video-based care plans on nursing students' confidence in performing tasks in patient wards, as well as the research of Kenny, Alkazme, and Day, which demonstrated that after watching instructional videos, dental students were more confident in performing local anesthesia in children. The use of video content to deliver structured and engaging learning is further supported by Foster's (1973) theory.

Additionally, Nalinor Nui-Plot (2023) found that video-based lessons were effective in developing students' scientific thinking skills. Thus, using video as a knowledge management communication tool is an effective approach to enhancing understanding and retention.

The recognition and understanding of practical skill instruction, according to Woodruff's theory, highlight that the most significant comprehension occurs when teachers allow learners to engage in hands-on activities from start to finish under teacher supervision. This is in line with Kolb's (2005) experiential learning theory, which emphasizes that learning is most effective when students engage in direct experiences, enabling them to better understand and develop skills through active participation and reflection. Research has found that providing learners with the opportunity to practice and reflect on their experiences significantly contributes to more effective learning (Kolb, 2005). Furthermore, learning through practice and reflection, with the teacher providing guidance, allows students to continuously develop their skills. This aligns with Schön's (1983) theory of reflective practice, which suggests that ongoing guidance and feedback support continuous skill development.

The teaching of practical skills according to Woodruff's theory contributes to the development of motor skills (e.g., coordination of body parts) and social skills (e.g., relationships with peers), which is most effective. This is consistent with the research by Pimphan Rattanachai (2021) on "Promoting Motor and Social Skills through Integrated Learning in Schools." This study demonstrates that developing motor skills and social skills in students is interconnected and mutually reinforcing. Piaget, Vygotsky, and Erikson's theories support the idea that learning through practice and social interaction is critical to developing both skill areas. Students who develop motor skills through play or activities that require body coordination build a strong foundation for social relationships. Conversely, strong social skills support confidence in motor development and exploration of new environments. Thus, both skill sets should be developed in a supportive context, such as classrooms that encourage play and interaction under teacher supervision, providing an ideal environment for developing both motor and social skills simultaneously.

The knowledge and understanding gained from this communication model can be applied to enhance teaching practices for students with learning disabilities and general students alike, leading to more effective instructional strategies. Knowledge management communication is therefore an essential internal process within organizations, aimed at enhancing organizational competitiveness by sourcing relevant knowledge, organizing data systematically, and sharing knowledge as appropriate. This process focuses on developing the learning process to ensure effective selection, management, and dissemination of information, thus fostering a supportive learning atmosphere for teachers and educational stakeholders to continue developing education further.

However, there are limitations to knowledge communication for developing the skills of students with learning disabilities in Surin province, specifically among teachers, school principals, educational supervisors, and other educational personnel. The use of storytelling articles and infographics, while effective, is less impactful than video media due to the nature of the medium. Nevertheless, knowledge communication can be further disseminated through online platforms such as websites, YouTube, and Facebook pages, enabling further development and research dissemination to interested parties or the development of future educational practices.

**Recommendations**

1. Application of Research Findings: Teachers, school directors, educational supervisors, and education staff in Surin province can apply the findings of this study in schools within their respective educational areas. Additionally, parents can use the methods for teaching and developing students with learning disabilities at home.
2. Improving the curriculum or providing training to teachers on effective teaching methods for developing students with learning disabilities is essential. This will help enhance teachers' skills in addressing the diverse needs of students and ensure that they can implement appropriate strategies for supporting their learning and development.

3. Future Research: Future studies should explore other teaching methods that can further support the development of students with learning disabilities, such as integrating modern technology or implementing interdisciplinary learning approaches.
4. Statistical Studies on Students: There should be additional quantitative research focusing on the statistics of students with learning disabilities and their academic performance, providing clear data to aid in planning and improving educational strategies in the future.

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**References**

Kittima Jaipluem, & Team. (2020). Knowledge management for developing schools into learning organizations. Ramachulayanakorn Journal, 8(6), 46-60.

Ministry of Education. (2008). Basic education core curriculum 2008. Retrieved from http://academic.obec.go.th/web/news/view/75

Information and Communication Technology Center, Ministry of Education. (2024). Retrieved from https://edustatistics.moe.go.th/surin/#

Sorya Niyomtham. (2003). Characteristics and learning management for children with learning disabilities. *Academic Journal of Education, 4*(2), 143-144.

Tisana Kaemanee. (2013). Teaching science: Knowledge for effective learning processes. Chulalongkorn University.

Wanida Matbenanan. (2019). Academic Journal of Suvarnabhumi Institute of Technology, 8(2), 498-505. Waritsanun Dechpanprasong, Mongkol Chaiyawong, Akkarawut Jindanurak, Trairat Pipatphokphol, &

Ploypapass Chitratson. (2022). Learning management model for developing students' practical skills. Academic Journal of Suvarnabhumi Institute of Technology, 8(2), 428-440.

Pimphan Rattanachai. (2021). Promoting movement and social skills through integrated learning in schools. Master's thesis, Chiang Mai University.

Subin Ekchit. (2018). Development of a video media for guidance on public relations regarding further education at Suvarnabhumi Rajamangala University of Technology for grade 12 students. Master's thesis, Faculty of Industrial Education, Rajamangala University of Technology Thanyaburi.

Chaisiri Phattathaworn, Busaba Suthithorn, & Sawanee Chinnalong. (2022). The use and satisfaction of online media of the Office of Small and Medium Enterprises Promotion for entrepreneurs in Bangkok and surrounding areas. Journal of Marketing and Management, Rajamangala University of Technology Thanyaburi, 9(1), 1-15.

Apinya Kaewpremkussol. (2018). Media acceptance, awareness, attitudes, and benefits derived from the sufficiency economy philosophy of youth in Bangkok. Journal of Management Science, Nakhon Pathom Rajabhat University, 6(2), 27-40.

Jiratchaya Vichianpanja, Oncharee Na Takhuatung, & Phromphak Buengbua. (2020). Development of knowledge management systems for research utilization. Journal of the Research Association, 25(1), 532-549.

Chulamas Jansreesuk. (2017). Learning management for children with learning disabilities. Udonthani: Faculty of Education, Udon Thani Rajabhat University.

Thawisak Sirirattanreka. (2018). A Guide to Mental Health Care for Children with Learning Problems (2nd ed.). Bangkok: Prosperous Plus.

Woravee Kaewmanna, & Dandutsit Proananon. (2022). Factors affecting the communication efficiency in project management: A case study of the Accounting Profession Council under the Royal Patronage. Journal for Strategy and Enterprise Competitiveness I, 2(4), 48-66.

Sumalee Suwankorn. (2016). Creative communication strategies for developing Khon Kaen city. Master's thesis, Graduate School of Local Administration, Khon Kaen University.

Educational Technology Office, Innovation for Learning, Thailand Institute of Scientific and Technological Research (TISTR). (2022). Video Production Guide.

Chaisiri Phattathaworn, Busaba Suthithorn, & Sawanee Chinnalong. (2022). Using media for learning: Concepts and development. Bangkok: University Press.

Thairath Online. (n.d.). LD children or learning disabilities: An important issue not to be overlooked. Retrieved January 17, 2025, from https://www.thairath.co.th/lifestyle/health-and-beauty/2805502
Anon Chutisakun. (2019). Determining sample size with a ready-made table. Retrieved from https://www.thetsis.com/post/research-tips-sampling
Nalinaorn Nuayplod. (2023). Investigating the effectiveness of video lessons in developing scientific thinking skills of students. Journal of Education and Learning Innovation, 3(3), 227–239. Retrieved from https://so06.tci-thaijo.org/index.php/jeil/article/view/264864
Sumitra Rojanniti, Boonman Thanasutphawet, & Nittaya Suwansri. (2022). Learning management in schools for children with LD. Valaya Alongkorn Review (Humanities and Social Science), 12(2), May-August 2022.
Peng, W. (2015). Analysis of new media communication based on Lasswell's "5W" model. Journal of Educational and Social Research, 5(3), 245-250.
Kolb, D. A. (2005). Experiential learning: Experience as the source of learning and development. Pearson Prentice Hall.
Mayer, R. E. (2009). Multimedia Learning (2nd ed.). Cambridge University Press.
Piaget, J. (1952). The Origins of Intelligence in Children. International Universities Press.
Rogers, E. M. (1973). Communication Strategies for Family Planning. Free Press.
Schon, D. A. (1983). The Reflective Practitioner: How Professionals Think in Action. Basic Books.
Simpson, G., & Brown, J. (1977). [Title of the Work]. [Publisher]. [Page Number].
Vygotsky, L. S. (1978). Mind in Society: The Development of Higher Psychological Processes. Harvard University Press.
Warisanan, D., & K. (2022). Learning management model for developing students' practical skills.
Srisailaun, O., & Jungpanich, A. (2015). Effects of using daily care plan video teaching on clinical self-confidence and satisfaction of nursing students, Kuakarun Faculty of Nursing, Navamindradhiraj University. Kuakarun Journal of Nursing, 22(1), 17-34.