

Designing HyFlex Learning for the “RU for All” Learning Center

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Abstract

This study aimed (1) to assess the needs of the “RU for All” Learning Center and (2) to design a HyFlex Learning model for the “RU for All” Learning Center, aligned with the identified needs. The participants included 279 stakeholders: administrators, faculty members, staff, teachers, students from affiliated schools, and community members. Data were collected using a dual-response format needs assessment questionnaire. The Priority Needs Index ($PNI_{modified}$) was used to analyze and rank the needs. Additionally, 40 participants – teachers, staff, and community representatives in Bangkok – evaluated the quality of the Learning Center. Evaluation data were analyzed using descriptive statistics, specifically the mean and standard deviation. The findings showed that the top-ranked need was “promoting self-directed learning through online platforms” ($PNI_{modified} = 0.854$). In response, the “RU for All” Learning Center was developed as a HyFlex Learning model incorporating three instructional modalities: Face-to-Face (F2F) Live, Online Livestream (OL), and Online Asynchronous (OA). Evaluation results indicated that the training courses achieved the highest quality level ($M = 4.81$, $SD = 0.32$), demonstrating high perceived quality and feasibility of the HyFlex Learning approach for promoting sustainable community learning.

Keywords: hyflex learning, learning center, needs assessment

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Introduction

Lifelong learning has been widely recognized as a fundamental mechanism for human resource development throughout life and as a cornerstone of sustainable social development. This principle aligns with United Nations Sustainable Development Goal 4 (SDG 4), which emphasizes inclusive, equitable, and quality education, as well as the promotion of lifelong learning opportunities for all. Despite global progress in expanding educational access, challenges persist regarding learning quality, educational inequality, and equitable access to learning resources, especially among marginalized groups and socioeconomically diverse urban communities.

Ramkhamhaeng University, following the “open admission” philosophy, has significantly expanded educational opportunities and reduced inequality. Consistent with its mission to promote social justice and sustainable community development, the Faculty of Education has enhanced its academic service initiatives to meet community needs. A needs survey in the Thepleela community in Bangkok identified demands for career-related skills, recreational activities, and positive youth engagement to improve quality of life and prevent social problems.

In response, the “RU for All” Learning Center was established using the HyFlex Learning framework proposed by the Columbia Center for Teaching and Learning (2020). This model combines hybrid and flexible learning modalities, enabling learners to choose face-to-face synchronous, online synchronous, or asynchronous participation without compromising learning quality. Because it can overcome constraints of time, location, and access, HyFlex Learning is especially suitable for lifelong and community-based education.

Therefore, this study uses an evidence-based design approach to develop the “RU for All” Learning Center, aligning it with stakeholder needs. By integrating lifelong learning principles, educational equity, and HyFlex flexibility, the research aims to establish a sustainable model of academic engagement that contributes to community empowerment and long-term social development in Thailand.

Literature Review

This study reviews relevant literature in four areas: informal learning and learning centers, the educational context of the Faculty of Education at Ramkhamhaeng University, needs assessment, and HyFlex learning.

Informal Learning and Learning Centers

Informal learning occurs outside formal schooling and is driven by learners’ interests, readiness, opportunities, and potential. It involves learning from individuals, experiences, social contexts, environments, media, and other knowledge sources in daily life. Thai legislation, including the National Education Act B.E. 2542 (1999) and its 2002 amendment (Office of the National Education Commission, 2002), as well as the Non-Formal and Informal Education Promotion Act B.E. 2551 (Ministry of Education, 2008), emphasizes learner-centered, lifelong learning accessible to all citizens. Studies on informal education management identify four essential components: principles and philosophy of informal education; learning promotion activities and programs; supporting factors such as learning resources, technology, and networks; and experiential learning with appropriate evaluation. Research on community-

based learning centers highlights participatory processes, collaboration among stakeholders, systematic management structures, and diverse service formats as critical to sustainability and effectiveness.

Institutional Context of the Faculty of Education

The Faculty of Education at Ramkhamhaeng University was established under the Ramkhamhaeng University Act B.E. 2514 (1971). Its philosophy promotes lifelong educational opportunities and the cultivation of graduates with knowledge and moral integrity. Its objectives include producing academically and professionally competent graduates, expanding educational equity, strengthening research capacity, enhancing administrative effectiveness, preserving cultural heritage, and integrating technology into teaching. The Faculty's vision emphasizes producing graduates who can adapt to change and use technology for academic excellence. Its policy on academic and professional services to society supports diverse outreach initiatives that respond to community needs, forming the policy foundation for the "RU for All" Learning Center.

Needs Assessment

Needs assessment is a systematic process for identifying discrepancies between the current and desired states, prioritizing these gaps, and selecting key improvement needs (Wongwanich, 2015). Priority setting is the final stage, ensuring that identified needs are analyzed and ranked systematically. Among various techniques, the Modified Priority Needs Index ($PNI_{modified}$) is widely used for dual-response data, enabling clear prioritization to guide program development.

HyFlex Learning

HyFlex, conceptualized by Beatty (2019), combines hybrid and flexible learning by allowing students to choose face-to-face, synchronous online, or asynchronous participation. The model addresses diverse learner constraints and supports learner autonomy. Recent research (Intasena & Worapun, 2024; Mahrishi et al., 2025; Santandreu Calonge et al., 2023) demonstrates its effectiveness in both school and higher education contexts. However, successful implementation requires careful instructional design to ensure students have comparable learning experiences regardless of participation mode. This literature supports integrating needs assessment and HyFlex design in developing a sustainable, community-oriented learning center aligned with lifelong learning principles.

Methodology

This research project received ethical approval from the Human Research Ethics Committee in Social Sciences and Behavioral Sciences at Bangkokthonburi University (Approval No. 2567/214 (17)). Approval was granted on December 14, 2024, and is valid until December 13, 2026. The study was authorized to collect data from the specified target groups and samples. The research procedures were divided into two phases based on the research objectives.

Phase 1: Needs Assessment of the “RU for All” Learning Center

Participants

Stakeholders included: (1) 15 administrators, lecturers, and staff members from the Faculty of Education involved in learning center management; and (2) beneficiaries of the learning center, comprising 113 teachers, staff, and students from two network schools in Bangkok, and 151 community members receiving services. The total sample size was 279 participants.

Research Instrument

A needs assessment questionnaire was developed, consisting of three parts: (1) respondents’ demographic information (checklist format); (2) a dual-response five-point rating scale assessing the current situation (D) and the desired situation (I); and (3) 33 items categorized into context, input, and process dimensions. Content validity was determined using the Index of Item–Objective Congruence (IOC), with all items achieving an IOC of 1.00 as evaluated by three experts. Reliability analysis from a pilot test with 30 participants yielded a Cronbach’s alpha coefficient of 0.977.

Data Collection

Official letters requesting permission to collect data were sent to the target schools and communities. The researchers conducted on-site data collection using self-administered questionnaires. Participants were informed of the research objectives and provided voluntary consent before completing the questionnaire. All completed questionnaires were collected directly by the researchers.

Data Analysis

Demographic data were analyzed using frequencies and percentages. Mean scores were calculated to determine the levels of the current state (D) and the desirable state (I). Priority needs were identified and ranked using the Modified Priority Needs Index ($PNI_{modified} = \frac{(I-D)}{D}$).

Phase 2: Curriculum Design Under the “RU for All” Learning Center for Sustainable Community Learning

Target Groups

A total of 40 participants evaluated the curriculum quality: 20 representatives from teachers, school administrators, and Faculty of Education network schools in Bangkok, and 20 community representatives and leaders from Thepleela community who had lived in the area for more than three years. Participants in Group 1 had at least three years of experience in academic or professional service projects.

Research Instrument

The curriculum quality evaluation form consisted of two parts: (1) a checklist for respondents’ demographic information and (2) a 5-point rating scale (20 items) covering four dimensions: curriculum content, instructional methods, media and support resources, and measurement and

evaluation. Content validity (IOC = 1.00) was confirmed by three experts, and reliability testing (n = 30) showed a Cronbach's alpha of 0.970.

Data Collection

Official letters were sent to target schools and communities. The researchers collected data on-site using self-administered questionnaires. Participants were informed of the research objectives and provided voluntary consent before participating.

Data Analysis

Quantitative data were analyzed using descriptive statistics, including mean and standard deviation.

Results and Discussion

Needs Assessment of the “RU for All” Learning Center for Sustainable Community Learning

The needs assessment used the Modified Priority Needs Index ($PNI_{modified}$) to identify and prioritize gaps between the desirable state (I) and the current state (D). The analysis was divided into three dimensions: Context, Input, and Process. The findings showed that the highest priority need was in the Context dimension ($PNI_{modified} = 0.651$), followed by Input ($PNI_{modified} = 0.611$), and Process ($PNI_{modified} = 0.557$). The overall $PNI_{modified}$ was 0.604, indicating a substantial discrepancy between expected and actual conditions. Details are presented in Table 1.

Table 1

Overall Needs Assessment of the “RU for All” Learning Center

Dimensions	Mean (I)	Mean (D)	Needs Assessment	
			$PNI_{modified}$	Rank
1. Context	4.36	3.02	0.651	1
2. Input	4.48	3.12	0.611	2
3. Process	4.37	3.08	0.557	3
Total	4.40	3.07	0.604	

Further analysis within the Context dimension identified the three highest priority needs among 33 items: (1) promoting self-directed learning through online platforms ($PNI_{modified} = 0.854$), (2) knowledge related to physical health, sports, and recreation ($PNI_{modified} = 0.842$), and (3) basic communication language skills, such as English and Chinese ($PNI_{modified} = 0.714$). Details are presented in Table 2.

Table 2
Needs Assessment Results: Context Dimension

Contexts	Mean (I)	Mean (D)	Needs Assessment	
			PNI _{modified}	Rank
1. Promoting self-directed learning through online platforms	4.34	2.84	0.854	1
2. Knowledge related to physical health, sports, and recreation	4.49	2.93	0.842	2
3. Basic communication language skills (e.g., English and Chinese)	4.28	2.81	0.714	3
4. Inclusive access for diverse learners	4.40	3.03	0.706	4
5. Supporting income generation for families	4.24	2.90	0.648	5
6. Mental health and drug prevention knowledge	4.37	2.96	0.637	6
7. Reducing education and training expenses	4.34	3.03	0.581	7
8. Cooking and nutrition knowledge	4.50	3.27	0.552	8
9. Collaboration with external organizations	4.37	3.22	0.517	9
10. Appropriate physical learning spaces	4.31	3.23	0.460	10
Total	4.36	3.02	0.651	

Design Results of HyFlex Learning for the “RU for All” Learning Center in Alignment With Identified Needs

The design outcomes for the “RU for All” Learning Center: Education to Community for Sustainable Learning, based on stakeholders’ identified needs, were divided into two main components: development of the learning center in response to users’ needs, and quality evaluation of the training programs implemented by the center.

Development of the “RU for All” Learning Center

Based on the previous needs assessment conducted across the dimensions of context, input, and process, the findings provided essential information to guide the establishment of the learning center. The design focused on community-based instructional packages consisting of four training programs, each with 24 instructional hours: (1) Health Hub: Healing Mind, Strengthening Thai Well-being; (2) Talk Pro: Language Development for Opportunity Creation; (3) Cooking to Cash: Signature Recipes for Income Generation; and (4) R&D for Expert Teachers: A Pathway to Professional Expertise through Research and Development.

All programs were implemented using a HyFlex learning model that integrated three instructional modalities: Face-to-Face (F2F) Live, Online Livestream (OL), and Online Asynchronous (OA).

Table 3*Design of the “RU for All” Learning Center Under the Hyflex Learning Framework*

Program	Face-to-Face (F2F) Live (Ramkhamhaeng University)	Online Livestream (Google Meet)	Online Livestream (Google Meet)
1. Health Hub	✓	-	✓
2. Talk Pro	✓	-	✓
3. Cooking to cash	✓	-	✓
4. R&D for Expert Teachers	✓	✓	✓

Note. A check mark (✓) indicates that the instructional modality was implemented in the program.

As shown in Table 3, all four programs included Face-to-Face instruction as a core modality. Online Asynchronous access was available in all programs to increase flexibility and expand participation. The Online Livestream was used only in the R&D for Expert Teachers program, reflecting the specific characteristics and readiness of its target group.

This design illustrates a context-sensitive application of the HyFlex framework, ensuring instructional modalities were chosen based on community needs, program characteristics, and learner readiness while maintaining accessibility and quality.

Implementation of Face-to-Face (F2F) Live for the “RU for All” Learning Center

The design results showed that all programs included Face-to-Face (F2F) Live delivery, with instructors physically present at the venue. This decision was based on the nature of two out of four programs, which required hands-on demonstrations and access to specialized facilities. For example, the Health Hub: Healing Mind, Strengthening Thai Well-being program involved demonstrations and practice using resistance bands and yoga stretching techniques. Similarly, the Cooking to Cash: Signature Recipes for Income Generation program required the use of a food laboratory equipped with heating devices and specialized culinary equipment.

On-site instruction at Ramkhamhaeng University was therefore prioritized to ensure safety, quality control, and close supervision. This approach aligns with experiential learning activities that depend on specific resources and controlled environments. As noted by Beatty (2019), HyFlex does not diminish the role of in-person learning; rather, it emphasizes providing learners with meaningful choices under the equivalency principle. Accordingly, programs requiring specialized tools may retain F2F as the core modality while supplementing access through livestreaming or recorded materials.

Implementation of Online Livestream (OL)

Only one program, R&D for Expert Teachers: A Pathway to Professional Expertise through Research and Development, used Online Livestream (OL) via Google Meet. The target participants were in-service teachers seeking professional development who could not travel. Because the course content was primarily theoretical and participants showed adequate digital readiness, synchronous online delivery enabled real-time interaction.

This approach aligns with the Community of Inquiry (CoI) framework proposed by Garrison et al. (2000), which highlights the importance of social, cognitive, and teaching presence in synchronous interaction. Mayer (2014) also emphasized that well-designed online instruction

can effectively support theoretical learning when learners have appropriate technological resources. The importance of aligning instructional design with contextual factors, such as learner characteristics and content type, is also supported by Graham (2013).

Implementation of Online Asynchronous (OA)

All four programs offered recorded sessions on Facebook and YouTube, enabling asynchronous access. This feature was especially helpful for participants who could not attend live sessions. Delivering content through familiar platforms could reduce barriers related to time and location and enable self-paced review.

Providing asynchronous access demonstrates the flexibility of the HyFlex model and supports equitable learning opportunities. It aligns with lifelong learning principles that encourage continuous and diverse access to knowledge (United Nations Educational, Scientific and Cultural Organization, 2015). Beatty (2019) also identified learner choice as a core principle of HyFlex design. Knowles (1975) emphasized self-directed learning, highlighting learners' ability to plan, regulate, and review their own learning processes independently.

Quality Evaluation of Training Programs Under HyFlex Learning for the "RU for All" Learning Center

The quality evaluation of the training programs at the "RU for All" Learning Center: Education to Community for Sustainable Learning was conducted with two groups of stakeholders. The sample included 20 representatives from teachers and educational personnel at schools within the Faculty of Education network in Bangkok, and 20 community participants who received the services, totaling 40 respondents.

Overall, the quality of the training programs was rated at the highest level ($M = 4.81$, $SD = .317$), as shown in Table 4.

Table 4

Quality of the Training Programs Under HyFlex Learning for the "RU for All" Learning Center

Program Quality Dimensions	<i>M</i>	<i>SD</i>	Quality Level
1. Course content	4.88	.291	Highest level
2. Instructional methods	4.83	.357	Highest level
3. Media and learning support	4.79	.346	Highest level
4. Measurement and evaluation	4.75	.423	Highest level
Overall	4.81	.317	Highest level

Course content received the highest mean score ($M = 4.88$, $SD = .291$), followed by instructional methods ($M = 4.83$, $SD = .357$), media and learning support ($M = 4.79$, $SD = .346$), and measurement and evaluation ($M = 4.75$, $SD = .423$). All dimensions were rated at the highest level.

The findings regarding course content indicate its appropriateness and alignment with community needs. As noted by Darling-Hammond and Rothman (2015), high-quality curriculum content should be purposefully designed to match the needs and context of the target

community. It should strengthen essential knowledge and skills that support sustainable learning, remain current and relevant, and be applicable to learners' real-life experiences.

Conclusion

The needs assessment of the “RU for All” Learning Center: Education to Community for Sustainable Learning found that, among 33 evaluated items, the three highest priority needs were all related to contextual factors. The highest-ranked item was the center's emphasis on promoting self-directed learning through online systems. The second priority was the provision of knowledge related to physical health, sports, and recreation. The third focused on foundational language skills for communication, particularly English and Chinese.

Based on identified needs across the dimensions of context, input, and process, the researchers developed guidelines for establishing the learning center. Four community-based training programs (24 hours each) were created: (1) Health Hub: Healing Mind, Strengthening Thai Well-being; (2) Talk Pro: Language Development for Opportunity Creation; (3) Cooking to Cash: Signature Recipes for Income Generation; and (4) R&D for Expert Teachers: A Pathway to Professional Expertise through Research and Development. The programs were implemented using a HyFlex learning model that integrated Face-to-Face (F2F) Live, Online Livestream (OL), and Online Asynchronous (OA) modalities.

Evaluation results from two stakeholder groups – teachers and educational personnel within the Faculty of Education network schools in Bangkok – showed that the overall quality of the training programs was rated at the highest level.

Based on the development of the “RU for All” Learning Center, which introduced four community-based programs—(1) Health Hub: Healing Mind, Strengthening Thai Well-being; (2) Talk Pro: Language Development for Opportunity Creation; (3) Cooking to Cash: Signature Recipes for Income Generation; and (4) R&D for Expert Teachers: A Pathway to Professional Expertise through Research and Development—implemented through a HyFlex learning model integrating Face-to-Face (F2F) Live, Online Livestream (OL), and Online Asynchronous (OA) modalities, several practical implications are proposed.

For the Online Livestream (OL) modality, it is essential to assess participants' technological readiness and digital literacy before implementation. If participants lack adequate access to technological resources, greater emphasis should be placed on Face-to-Face (F2F) Live sessions and Online Asynchronous (OA) formats, which allow for flexible access through recorded materials. This approach ensures equitable participation and supports sustainable learning outcomes.

Recommendations

Recommendations for Practical Application

Based on the development of the “RU for All” Learning Center, which introduced four community-based programs—(1) Health Hub: Healing Mind, Strengthening Thai Well-being; (2) Talk Pro: Language Development for Opportunity Creation; (3) Cooking to Cash: Signature Recipes for Income Generation; and (4) R&D for Expert Teachers: A Pathway to Professional Expertise through Research and Development—implemented through a HyFlex learning model integrating Face-to-Face (F2F) Live, Online Livestream (OL), and Online Asynchronous (OA)

modalities, several practical implications are proposed. For the Online Livestream (OL) modality, it is essential to assess participants' technological readiness and digital literacy before implementation. If participants lack adequate access to technological resources, greater emphasis should be placed on Face-to-Face (F2F) Live sessions and Online Asynchronous (OA) formats, which allow for flexible access through recorded materials. This approach ensures equitable participation and supports sustainable learning outcomes.

Recommendations for Future Research

This study evaluated program quality across four dimensions: course content, instructional methods, media and learning support, and measurement and evaluation. Future research on learning center design within the HyFlex framework should expand evaluation to additional dimensions for more comprehensive insights. Researchers are encouraged to incorporate the Community of Inquiry (CoI) framework proposed by Garrison et al. (2000), which emphasizes Social Presence, Teaching Presence, and Cognitive Presence. Integrating these dimensions would offer a deeper understanding of how online and blended learning environments foster meaningful and transformative learning experiences.

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Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

No generative artificial intelligence (AI) or AI-assisted technologies were used in the conceptualization, research design, data collection, data analysis, interpretation of findings, or manuscript preparation. All ideas, procedures, analyses, and discussions in this manuscript are the original intellectual work of the researchers.

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