

## **Enhancing Andragogy for Educators Through Knowledge Building Professional Learning Approach (KBPL Approach)**

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### **Abstract**

Knowledge Building (KB) has emerged as a transformative pedagogical approach in Singapore's secondary education landscape. However, what is less studied is the adaptive use of KB in adult learning. This practice-orientated study explores the design and implementation of the Knowledge Building Professional Learning (KBPL) Approach in a Singapore Secondary School, highlighting its constructive role in fostering effective professional learning and collaborative culture for educators. KBPL is an integrative professional learning practice-orientated methodology that maps and synthesizes the key features of andragogy, elements of Tuckman's group development model and the practices of the 4Ms framing [Micro, Meso, Macro and Mega], with KB scaffolds and principles as its overarching andragogical structure and support base. This gives rise to KBPL signature andragogical moves [Let's Hear Out! Let's Build-on! Let's Rise Above!] that applies across all collaborative scales: (i) Intra-School Idea Café [Micro-Meso] that gathers practitioners of different subjects for a time of reflective dialoguing towards collective knowledge creation and synthesis in advancing their classrooms instructional practices; (ii) Inter-School "The History Times" project [Meso-Macro] involving connecting and mentoring teachers from at least 2 schools in reframing the learning experiences for learners of History towards participatory, inquiry-driven and historiographical-orientated prospectus; and (iii) International KB Community Network [Macro-Mega] focusing on mapping the collaborative journeys, modelling successful practices, and mentoring peers across schools and countries, to refine and drive collective pedagogical growth. The overwhelmingly positive feedback from participants underscores KBPL practicality, accessibility, and potential to inspire impactful professional learning communities. As a dynamic and adaptable methodology, the KBPL Approach stands as a promising andragogical model for advancing knowledge building and professional development in diverse educational contexts, and facilitates the move towards 21st century heutagogy where adult learners' sense of autonomy, agency and maturity are maximized and realised.

*Keywords:* knowledge building, KBPL approach, professional learning, andragogy, Tuckman's Model, 4Ms framework, collaboration, teacher development, Singapore education

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## Introduction

Knowledge Building (KB) has emerged as a transformative pedagogical approach in Singapore's secondary education landscape. As a learning theory and pedagogy, KB has been widely studied within the K-12 context (Chen & Hong, 2016). Through its twelve principles, KB facilitates towards the flourishing of students' collective epistemic agency within a collaborative learning environment (Scardamalia, 2004). Central to KB is Knowledge Forum (KF), an online platform that supports asynchronous and synchronous discussions, enabling educators and students to document, refine, and build on ideas collectively. However, what is less studied is the adaptive use of KB in adult learning. Andragogy, as represented by Knowles's (1980), relies on six principles in facilitating effective learning for adults, with its key focuses on practicality, personal autonomy and experiences, and problem-orientated learning. Similarly, Lin's study (2024) highlights the importance of KF in allowing adult learners to pursue their professional growth of collective knowledge advancement and reflective practice across space and time, within and considering their various personal commitments. This practice-orientated study aims to showcase how Knowledge Building Professional Learning (KBPL) Approach enterprises the intentional and integrative use of KB principles and practices, supported and contextualized within the adaptation of Tuckman's (1965) group development model and the 4Ms framework [Micro, Meso, Macro and Mega]. The frameworks in turn help in enhancing and advancing the andragogical learning processes, methodologies and moves for educators. At the same time, this facilitates the move towards 21st century heutagogy where adult learners' sense of autonomy, agency and maturity are maximized and realised.

## Participants

The participants in this study comprised a total of 19 educators. They represented a variety of subject disciplines, reflecting a multidisciplinary background that enriched the collaborative process. All participants were engaged in at least two of the platforms explored in this paper, and they had prior knowledge of Knowledge Building (KB), which enabled them to contribute effectively to the initiatives.

## KBPL Approach and Its Implementation

KBPL Approach is an integrative professional learning practice-orientated methodology that maps and synthesizes the key principles of andragogy, elements of Tuckman's group development model and the practices of the 4Ms framing, with Knowledge Building as its overarching andragogical structure for effective community advancement.

**Table 1***How KB Facilitates and Initiates Accompanying Andragogical Moves*

<b>Key Principles of Andragogy</b>	<b>Key Principles of KB [adapted from its 12 principles]</b>	<b>Andragogical Moves arising from KB and its key descriptions</b>	<b>KB Scaffolds in facilitating these andragogical moves</b>
Personal Experience Problem-orientated	Centrality of participants' voices	Let's Hear Out! Participants to share & voice out their personal stories, focusing primarily on their struggles & issues [areas that they need feedback & ideas]	My theory
Practicality Personal Experience	Culture of collective build-on	Let's Build-on! Participants to share strategies, initiate suggestions &/or engage in clarification in addressing the above struggles & issues	I need to understand I have new information This theory does not explain
Personal Autonomy Practicality	Course of Continuous Development	Let's Rise Above! Participants to generate their next individual steps & methodology for further improvement & enhancement	A Better Theory Putting Our Knowledge Together

**Table 2***Integration of KB Andragogical Moves Throughout the Processes & Platforms*

<b>KB Andragogical Moves</b>	<b>Tuckman's Group Development Model [adapted] &amp; Description</b>	<b>Progressive Andragogical Platforms integrating the 4Ms framework [adapted]</b>
Let's Hear Out	<u>Form: Form the Team</u> Participants form a team, share their stories and get familiarized with the KB andragogical moves	Intra-school [Micro-Meso] Cross-subject disciplines
Let's Build-On	<u>Norm: Norm the Culture</u> Participants to constantly engage in the use of KB andragogical moves throughout all their Professional Learning Sessions [ranging from pedagogical discussions to design]	Inter-schools [Meso-Macro] Cross-communities of same subject disciplines
Let's Rise Above	<u>Perform: Perform the Practices</u> Participants to implement KB lessons in class [Figure 1 for the key principles] with the team members engaging as learning observers in the segment on Let's Build-on	(Inter)-national [Macro-Mega] Cross-subject disciplines, Cross-communities & Cross-countries

### **Intra-school Collaboration: The Idea Café**

The Idea Café exemplifies the KBPL Approach as represented in Figure 1, an integrative professional learning methodology that synthesises the principles of andragogy with KB through structured moves such as “Let’s Hear Out”, “Let’s Build-On”, “Let’s Rise Above”. At the micro-meso level as seen in Figure 2, the Idea Café fosters a collaborative environment where teachers across disciplines collectively advance their pedagogical practices.

This intra-school collaboration aligns with Tuckman’s stages of group development: forming as teachers from diverse subject backgrounds come together as they discuss challenges in KB implementation. Teachers map their pedagogical challenges and goals using real classroom scenarios and model KB practices by sharing best strategies. The ability to also mentor each other in adapting KB principles and monitor the collective progress through reflective dialogue facilitated is made available through the affordances of the Knowledge Forum.

For instance, a Music teacher exploring “Improvable Ideas” might mentor a Literature teacher in using collaborative questioning to deepen text analysis. This iterative process highlights KB as the andragogical structure, enabling teachers to navigate challenges and engage in collective knowledge creation for their classrooms.

### **Inter-school Collaboration: “The History Times”**

The inter-school “The History Times” initiative similarly applies the KBPL Approach but at a meso-macro level to reframe history education as a participatory, inquiry-driven discipline. Guided by KB principles, this collaboration involves teachers from the two schools who engage in forming connections, brainstorming through initial curriculum redesigns.

Using the framework, teachers map the limitations of traditional history teaching, such as reliance on rote memorization, and identify opportunities for KB integration. They model innovative practices through Knowledge Forum, where ideas about historical narratives are documented, shared, and refined. Mentorship plays a pivotal role, as experienced KB practitioners support colleagues in embedding KB principles like “Epistemic Agency” and “Real Ideas, Authentic Problems” into the activities. Lastly, teachers collect feedback from students and teachers alike to iterate on project designs, ensuring continuous improvement as seen from the improvements made from the first iteration.

### **International Collaboration: Knowledge Building Community Network Learning (KBCNL)**

Finally at the macro-mega level, Knowledge Building Community Network Learning (KBCNL) thus becomes a platform where the insights and outcomes of intra-school and inter-school collaborations converge and expand. Guided by the KB principles such as “Symmetric Knowledge Advancement” and “Idea Diversity” as well as the accompanying KBPL Approach, it enables educators to share practices from initiatives like the Idea Café and “The History Times”.

KBCNL provides a space for educators to map their collaborative journeys, model successful practices, and mentor peers across schools and countries. Through shared dialogue and reflective feedback, educators monitor and refine their approaches, ensuring scalability and adaptability. This international platform fosters symmetrical knowledge advancement,

distributing expertise and driving collective growth. teachers and researchers to co-create ideas that cater to diverse educational contexts. The international dimension of KBCNL also reinforces “Community Knowledge, Collective Responsibility”, as educators engage in a reciprocal process of knowledge exchange that strengthens the global KB community. This systemic processes of the KBCNL also in turn reflect themes explored by Teo et al. (2021), particularly the use of teacher networks to transform pedagogy through shared discourse and idea-centered practices.

By connecting local innovations to a global audience, the KBCNL amplifies the impact of KB practices, allowing for symmetrical advancement, sharing insights and building on one another’s innovations that ultimately serves as both a culmination of localised efforts and a springboard for advancing professional learning communities worldwide.

### Analysis

**Table 3**

*A Survey on KBPL Approach for the 19 Participants*

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
I find our school KBPL Approach to be practical and useful in enhancing my professional growth and practices	10	9	Nil	Nil	Nil
The KB Andragogical Moves [Let’s Hear Out. Let’s Build-on. Let’s Rise Above] and scaffolds makes the PL sessions accessible, approachable and meaningful	18	1	Nil	Nil	Nil
Engaging in at least 2 of the 3 KBPL Platforms [Inter-school + Intra-school &/or International] facilitates my professional growth in both depth and breadth	13	6	Nil	Nil	Nil
If given the chance, I will strongly recommend KBPL approach for all professional learning communities	10	8	1	Nil	Nil
On a personal note, KBPL Approach gives me ideas and insights on how to design meaningful and productive PL sessions for my colleagues and myself	9	9	1	Nil	Nil

### Discussion

The survey results in Figure 3 highlight the overwhelmingly positive reception of the KBPL Approach among the 19 participants. All respondents found the KBPL Approach practical and useful in enhancing their professional growth, with 10 participants strongly agreeing and 9 agreeing. The structured andragogical moves—Let’s Hear Out, Let’s Build-On, Let’s Rise Above—and the scaffolds supporting professional learning sessions were praised for their accessibility and meaningfulness, with 18 participants strongly agreeing.

Participants expressed high enthusiasm for recommending the KBPL Approach to other professional learning communities, with 18 out of 19 agreeing or strongly agreeing. Also exemplified by a quote from one of the participants,

At the start, I am wondering how KBPL Approach and the various platforms will assist me in my professional growth. I had undergone many various forms of PL models.... But as I enrol myself in, I see the huge potential and affordances of this approach and its platforms. The concept of us as co-agents in the stage of continuous advancement amazes me. Many a times, PL stops once we gotten the results/outcomes. But, KBPL goes beyond that. Its processes reveal that of an authentic world where knowledge and learning always rise above, beyond what we can imagine. Outcomes are now just milestones that awaits new breakthrough; achieve through not by individual efforts but in a community setting where we are all co-agents in advancing the practices.

These results demonstrate the KBPL approach's efficacy in fostering meaningful and collaborative professional development, underscoring its potential for wider adoption.

### **Conclusion**

The implementation of the KBPL Approach has demonstrated its effectiveness in fostering meaningful professional learning and collaboration among educators. By integrating andragogical principles, Tuckman's group development model, and the 4Ms framework, the approach has enhanced both individual growth and collective advancement across intra-school, inter-school, and international platforms. The overwhelmingly positive feedback from participants underscores its practicality, accessibility, and potential to inspire impactful professional learning communities. As a dynamic and adaptable methodology, the KBPL Approach stands as a promising model for advancing knowledge building and professional development in diverse educational contexts.

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