

Double-Loop Feedback and Teacher Engagement in Urban School Environments: A Long-Term Collaboration in Bangkok

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Abstract

The exploratory study highlights a decade-long collaboration between two upper secondary science teachers in Bangkok and a Foreign Business Association (FBA). These teachers are responsible for science education from Year 10-12. This study highlights the importance of feedback as a foundation of trust and partnership for this collaboration. Their schools are in Bangkok and had previously operated as an isolated system due to regulatory restrictions and lack of interaction opportunities with outside. Based on the pilot project to improve quality of teaching and learning in urban environments, FBA focused on working with and empowering teachers rather than direct student involvement. This focus prioritizes a deep understanding of student needs and ensures long-term sustainability after the project's conclusion.

This study employs a field study methodology which focuses on in-depth observations within complex phenomenon or circumstance. To capture meaningful changes in teacher behavior, FBA emphasizes longitudinal engagement through repeated observations over several years. This continuous, iterative collaboration occurs in a natural school setting rather than a controlled or a semi-controlled environment. As a result, small data that can point to meaningful interpretation is acceptable. The natural setting at school allows teachers to behave genuinely while performing their daily tasks—such as teaching and assessment. The primary goal is to help teachers evolve into constructive feedback

providers and learning facilitators. As an exploratory study, the focus remains on analyzing and interpreting these natural behaviors through both direct conversations and non-interfering observation. Field study does not intend to identify patterns which require large samples for statistical purposes.

Students as well as their parents in Thailand's urban schools often face significant economic adversity and poverty, leading to feelings of disengagement and disconnection. Since teachers closely work with these students daily, they are best positioned to understand unique challenges and needs relating to teaching and learning. By collaborating through teachers, FBA can easily integrate the expertise from private enterprises into academic lessons and activities without interfering with classroom stability. To ensure the project's long-term sustainability, FBA prioritizes building the skills and experiences of the two teachers, as they remain the core of the school community long after the pilot phase ends.

Double-loop or second-loop feedback is essential to the collaboration, as it addresses the underlying mindsets that drive teachers' behavior, decisions, and actions. By questioning fundamental assumptions embedded in teachers, this pilot project moves beyond temporary fixes to nurture lasting behavioral change. While the first loop focuses on the question, 'What we do?', the second loop examines 'Why we do what we do?'. Second-loop feedback provides an opportunity to investigate personal biases, paradigms, and deeply ingrained beliefs. The key difference between the two loops is the level of questioning and investigating—the first loop attempts to help modify and improve decisions/actions while the second loop tries to challenge a prevailing assumption that has led to these decisions/actions.

Schools in urban environments often operate like isolated systems, with very few direct ties to or interactions with private firms, despite that these schools need to accommodate local community needs. Located in high-poverty, densely populated, and diverse areas, these schools often face a negative reputation. Challenges frequently include poor facility readiness, outdated technology, unprepared staff, and disruptive student behavior. Furthermore, these urban environments are associated with limited green space, high noise levels, and other pollution. For FBA, understanding these teacher mindsets and environmental challenges is crucial before significant improvements of the quality of teaching and learning can be achieved.

Teachers in urban schools frequently ask, 'Why do I need to change how I teach, give feedback to students, and plan my lesson if the interaction with outside is one time without continuation.' 'How can I motivate students to learn when learning condition is poor?' 'Who pays attention to students who are poor and come from province to be with their parents when they migrate to work in Bangkok?' 'I will not make any difference to students anyway.' 'I am not ready and nobody will help me prepare to deal with students.' These assumptions and mindsets prompted FBA to bring its partners such as embassies, international organizations, and foundations that belong to large corporations into teacher collaboration. These assumptions are complicated and deal with teachers' career and their work in a classroom.

FBA and its partners, including embassies, international agencies, and foundations, collaborate with teachers to ensure that their mindsets need to be addressed as part of ensuring concrete and meaningful teachers' activities. By focusing on second-loop feedback, FBA emphasizes opportunity, consistency, and responsiveness which aim to tackle the prevailing assumption and mindset that have influenced teachers' behavior. A key breakthrough was reimagining science experiments: instead of just writing reports, students are encouraged to develop and create real products like fertilizer, soap, and detergent. Product development allows students to apply Physics, Chemistry, and Biology while earning extra income and developing soft skills. Discussion, planning, investigation, and sharing were needed when searching for appropriate products from science experiments.

This change played a meaningful role for teachers which allowed them to think differently about lesson plan development with the opportunity to interact with FBA more actively in the future. This product-based approach has strengthened FBA engagement with teachers, especially in areas like packaging and pricing which are not in the mainstream academic curriculum. To sustain this, FBA has arranged school visits from entrepreneurs and foreign dignitaries on a consistent basis, which excites the students and encourages teachers to provide closer guidance. Additionally, FBA provides platforms for students to sell their products at organized events, building long-term confidence and consistency for everyone involved.

FBA has been responsive to teachers' needs, especially skills and knowledge in non-academic areas. These areas include emotional intelligence to help deal with disengaged students, anti-bullying measures to provide psychological safety at school, Facebook for Business to support products from science experiments, enterprise visits to help link between products with actual business environment, etc. In addition, more opportunities are extended by introducing teachers to the foundation that supports teaching and learning. Donated experimental equipment, internships, and participation in educational-related programs and camps reflect the trust and confidence in teachers. On the other hand, teachers' non-academic skills have also benefited students in terms of more empathy, more positive learning environments, to name a few.

Over the past few years, increased self-belief has encouraged teachers to independently show more innovation and leadership beyond their school duties and responsibilities. Peer-to-peer learning, especially sharing experience with others, indicates the ability for FBA to ask these two teachers to duplicate its efforts to other schools. Teachers have further involved students in projects that foster inter-school collaboration like study visits from international schools to observe how to make fertilizer from food wastes. FBA supports these efforts by covering expenses such as transportation, meals, and workshop materials. As a result, teachers strengthen their communication skills while students continue to develop essential soft skills through collaborative and hands-on learning.

More importantly, there is another example of teachers' increased confidence. A teacher network has been developed to help teachers share their experiences and create new opportunities for rural schools. For example, joint camps involving students, vocational colleges, and private firms can generate interest in both learning and future careers.

Ultimately, by addressing prevailing assumptions and mindsets through second-loop feedback, FBA uses long-term data to help urban teachers change their behavior. This process proves that engaging teachers effectively requires trust and partnership through opportunities, consistency, and responsiveness.

Keywords: Double-loop Feedback, Engagement, Motivation, Urban Environment