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School-based Professional Development for Teachers

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Executive Summary

This report summarizes the conclusions of research on the relative effectiveness of four major models for professional development of teachers – cascade, training-center, remote, and school-based. It will be clear from the research done by the leading educational researchers in the US and Canada over the past thirty years that decisions about professional development must be linked to the improvement priorities adopted by the individual school. Further, it is clear that the implementation of the activities is best when it involves all teacher in a given school or department and is embedded in the teachers' daily work in the context of a collaborative culture with the knowledge and support of the school's leadership team.

Fortunately, Dr Rima Karami and others at the Education Department at the American University in Beirut have done further research during the past fifteen years which has confirmed that the same principles apply to settings in the Arab world. On the basis of their findings, this is precisely the nature of the professional development that is being advocated by Numou Education Center, and its partners in the Education Department at the American University of Beirut. It is hoped that this information will be useful for planners designing new programs for training of teachers in the Kingdom of Saudi Arabia.

There is no dispute among educational leaders of the world about the importance of professional learning as part of the process of bringing about improvement in student learning and in schools – all agree it is essential! The question is simply how to go about it -- how to provide for professional learning in a way that is effective, efficient, and actually brings about the long term improvements that are needed. This report summarizes the conclusions of research done by the leading educational researchers in the US and Canada over the past thirty years on the relative effectiveness of four major models for professional development of teachers – cascade, training-center, remote, and school-based.

The cascade model, in which training is conducted at several levels by trainers drawn from a level above (Hayes, 2000), has been used in Saudi Arabia for many years and has several benefits: it is cost effective; it does not require long periods out of service; and it uses existing teaching staff as co-trainers (Gilpin, 1997) . Considerable research has been done on the cascade model and has found that it also has multiple shortcomings. One of these is that training is often diluted when using trainers drawn from successive tiers of the cascade; i.e. less and less is understood the further one goes down the cascade. Other shortcomings will be clear in the descriptions below of the findings of several leading researchers in the field.

The cascade approach is often carried out through a training center established for a community or district. The training center usually arranges for selection of a couple teachers from each of many different schools to come to attend a specific training program for a certain number of days. Then, these trainees are sent back to their schools with the mandate to implement the new methods learned and convince others in their schools to do the same. Cascading the effect to the school level, they are supposed to give training to their colleagues on what they just learned and encourage them to make the same changes that they are just beginning to learn to make. The advantage of this approach comes from the expectation that the training given in the center will be well chosen and well designed. However, the problem of dilution is clear when these newly trained teachers are expected to convince and support their colleagues to make the changes that they have not yet fully digested. In this situation, the principal and members of the leadership have not usually taken this training and are unable to provide support. Other problems are discussed below.

A model that has been introduced more recently and greatly increased during and after the period of wide-spread school closures due to the COVID epidemic, is the use of remote training through various programs and platforms on the internet. This model can be varied in many ways according to the balance of synchronous vs asynchronous time, the amount of interaction among participants, and the amount of application of the learning required in teaching plans or materials or other products. Remote methodologies are of special interest because they are more easily scalable, more accessible in a variety of settings and locations, and do not require expenses of travel and hotels. It is thought that the scalability of highly asynchronous programs may be in an inverse relationship with the impact of the training, i.e., the more easily scaled the less effective. More hope is held for the greater effectiveness of highly synchronous and interactive mobile programs. However, since the extensive online programs are rather new, there is not yet as much research and comparable data as in older, in-person training models.

Finally, the model that has been researched most extensively in more recent years is school-based professional development in which all the teachers in a school or in the same department take the same training at the same time and then work collaboratively to help each other implement it. In this model, the principal and all those involved with the desired innovation are also introduced to new methods, their value, and to their roles in supporting teachers in making the needed changes.

Several highly regarded researchers and teams have published reports on the relative effectiveness of these major models for professional development of teachers. They are shown below chronologically, to show how the knowledge was constructed collectively and gradually.

Firstly, many studies as far back as the 1950s and repeated more recently, have shown that the social system among teachers is generally weighted against change.Smylie (1992) found that teachers often have limited control over their time which can make it difficult for them to implement new practices. Further, teachers are often isolated from each other, which can easily create a sense of professional fragmentation and limit chances for cooperation and joint change. Given this context, if a small group of teachers are asked to attend a training program and cascade its content, the remaining teachers will complain about (a) the novelty of the methods (since they were not part of the training and were not given the chance to fully grasp the rationale), (b) the time and effort needed to implement the new methods and (c) about not being chosen for the training, and finally (d) that the teachers who attended the training and implemented the new ideas make them (those who did not attend) look bad in front of the principal. This dissatisfaction among those who didn't go for the training often results not only in the remaining teachers not making use of the new knowledge and skills, but also in the trained teachers giving up, placing their position in the social system of their workplace above the desire to implement the new concepts. Hargreaves (1994) summarized the findings about the impact of normal school culture and social system among teachers, concluding that the teaching profession is rooted in a traditional culture that values stability, order, and continuity. More recent research does not suggest any change in this social context of teachers in common school settings.

Whereas earlier researchers had emphasized the power of the group to scuttle attempts to change, DuFour & Eaker (1998) emphasized this power for supporting each other's learning when innovations are introduced in the context of a professional learning community. They concluded that when the group of teachers is focused on the same goal for improvement or innovative practice, the process of learning of both the adults and the students is seen to be more effective. The evidence even at that time was so strong that Guskey (2002) argued that professional development must be closely linked to expected school improvement in order to be effective. According to Guskey, professional development programs that are not directly related to the school's goals and priorities are unlikely to lead to meaningful changes in teacher practice or improved student outcomes.

School improvement guru, Michael Fullan (2007), concluded that the cascade model is prone to create a disconnect between the leadership of the school and its teachers. He showed that if the school leadership is not included in the training process (which is usually the case with the cascade model), the leaders of the school may not understand/support the new method or concept, making it challenging for them to support their teachers in the implementation phase. This can result in teachers feeling unsupported and the implementation of the new method or concept ineffective. On the other hand, the school-based approach allows leaders to understand the change desired, making them more likely to be convinced and then support their teachers in implementing the new method. It also makes it easier for them to help teachers adapt the method to the specific context of the school, thus increasing the chance for a positive effect.

Linda Darling- Hammond, leading researcher in preparation and development of teachers, has written extensively about the various models. In their status report of teacher professional development in 2009, she and her colleagues wrote that professional learning for all educators at a given school is indispensable for improving student learning and promoting equity.

This is because selecting a few teachers to cascade training may create a sense of inequity, which can negatively affect morale and motivation. On the other hand, the training of all teachers in a school or department can help promote a shared understanding of the school mission and goals, building a sense of community among its staff. The resulting collective commitment to the school's strategic vision for improvement in turn positively correlates with better instruction and better student outcomes.

John Hattie (2009) published his meta-analysis of over 800 studies on teacher professional development with the conclusion that the most effective professional development programs were those that were sustained over time, focused on student learning outcomes, and involved all teachers in a school or district. Hattie argued that professional development that is limited to a small group of teachers can result in a lack of consistency in teaching practices across a school or district. By contrast, training all teachers in a school can create a shared understanding of effective teaching practices and lead to more consistent implementation of these practices across classrooms. Hattie's study (2009) also emphasized the importance of school-wide professional development in creating a culture of continuous learning and improvement. When all teachers in a school are engaged in ongoing professional development, they are more likely to collaborate with one another, share ideas and resources, and work together to improve student outcomes.

Means et al (2010) have shown that this power of the group can also be seen when all members of the school or department take training together online. They found that this approach can also lead to improvement in teacher practice and student achievement, especially when it includes opportunities for collaboration and reflection, which is made possible through school-based capacity building as opposed to externally based training. More recently, Huang & Hsu (2021) also confirm Mean et al findings and show that school-wide online professional training positively impacted teacher efficacy and student learning outcomes.

Glickman, Gordon and Ross-Gordon (2010) pointed out that professional development is most effective when it is in response to the needs of teachers and is related to the improvement goals they have set, based on their felt needs and their identification of students' needs.

This is only possible when decisions about professional development are based in the school and when the implementation is differentiated according to the needs of specific groups and individuals.

Johnson et al. (2012) found that providing professional development to all teachers in a school at the same time can have a positive effect on teachers' job satisfaction. This effect is also coupled with the fact that all-staff training increases the chances of achieving the buy-in of most of the school staff who are more likely to feel valued and professionally supported (which also increases job satisfaction). Moreover, when the training is for a whole school, it becomes "job-embedded", which better fits the needs of adult learners, making the job of the teacher a meaningful, continuous learning experience.

Similarly, Desimone & Garet (2015) show that teacher professional development should focus on the needs of the teachers of the school. Training courses that are limited to a selected few may miss both urgent and important teacher needs and risk the possibility of not meeting them. When teacher and school needs are not met, the risk increases that the proposed changes will be rejected by school staff who were left out or who received the diluted version.

On the other hand, all-staff training allows for consistency in the delivery of content and guarantees that all teachers receive the same information and support. This school-based model also increases the likelihood of innovation at the school level, valuable adaptations that are less likely to occur when only a few are trained. Consequently, such training helps ensure that the impact is not limited to a few teachers -- and their classrooms and students-- but is equally present in all the classes of the school. This finding is aligned with the previous conclusions in the 1980s and 1990s of Joyce & Showers (2002) who showed that change results from teachers trying the new method in the classroom and getting feedback in the classroom. When the whole school is trying the same methods at the same time, school leaders and even other teachers can provide feedback in the classroom setting and support the teachers through the challenges of the initial phases of change. John Hattie (2015) also concluded that effective professional development requires collaboration and feedback. He notes that teachers learn best when they have opportunities to collaborate with their peers, receive feedback on their teaching, and reflect on their practice.

Another point is brought to the discussion through the work of Joyce & Showers (2002), Sergiovanni & Starratt (2007), Glickman et.el. (2010) and Hallinger et al (2011 and 2017) on the essential role of instructional supervisors/subject coordinators/ instructional coaches. These are the ones who must be available in the school to provide long term, day-to-day support to those teachers as they integrate the new learning into their practice.

In order to play this role, they must receive the same training well before and have the opportunity to gain deep understanding of the innovation or intervention so that they can monitor the work and serve as coaches and resources for the teachers on a daily basis. When innovations are introduced, there is always need for a group to be "ahead" in their knowledge and skills and be available to serve as another set of eyes for the teacher's developing practice. This is an area that is typically neglected or bypassed in external training models, leaving the teachers without the coaching they need as they implement what they learned, especially within the context of new / innovative interventions. The same is true with the principal and members of the leadership team as they try to apply training received in order to bring about improvement in their schools. The role of the coach – both for teachers and for school leaders -- cannot be underestimated to help translate good ideas learned through well-designed training into reality in a school.

Stanford professor, Linda Darling-Hammond has come back repeatedly to emphasize the importance of the school as the locus of decisions and implementation of professional development activities and also of the provision of coaching to transfer knowledge to practice. In 2017, her research emphasized the importance of aligning the professional development plan with school improvement initiatives and the specific needs of teachers. The report suggests that training and coaching should be designed to support the school's overall improvement efforts. Again, in 2023, in her key note address in CIES, she emphasized the importance of teachers' agency both in their learning, in the improvement initiatives that are to be implemented in their schools, and in linking professional development with those initiatives.

Dr Rima Karami (2014; 2018; 2019) and others at the Education Department at the American University in Beirut have done further research during the past fifteen years in eight Arab countries which has confirmed that the same principles apply to settings in the Arab world with some adjustments for the national and organizational culture.

In short, although training and supporting all teachers in one department or school as opposed to a selected few in a training center may require additional time and resources, the benefits on the student, equity, morale, motivation, job satisfaction, impact of the training, innovation, and sustainability levels outweigh the costs. The weight of research is clear that leaders in the West or in the Arab world who seek to actually develop and improve schools should focus on school-based training with involvement of school leadership. With the new opportunities provided by technology, this training can be face-to-face or – for the best of both worlds – blended with well-developed remote methodologies as long as it is carried out for the whole school or whole department with the active support of the school's leadership team and in the context of a supportive, collaborative school culture.This approach, adapted for the Arab world, is precisely the kind of professional development which is being advocated by Numou Education Center.

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