

**Interim Report on the Analysis
of Professional Development of
MIS Teachers in Jordan**

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Executive Summary

The literature on teacher professional development indicates that as curriculum reform moves toward supporting constructivist, active-learning principals for student learning, reforms should advocate matching approaches for the professional development of teachers. Professional development programs should advocate and use constructivist methods in their own programs, if they expect teachers to do the same in the classroom (Leu, 2005).¹

At the beginning of a curricular reform, the professional development of teachers may initially be 'reform-based' – focusing on curriculum understanding, ICT skills, or responses to urgent needs (Avalos, 2007).² Avalos notes that over time, however, the approach can evolve into one is based on 'Teacher Development' – with the goals of supporting on-going teacher skill development, teacher empowerment, school-based PD activities and supporting the development of broader perspectives in teaching and learning. In implementing a technical reform, Leu (2005) notes the importance of attending to processes and environments that support the development of "responsible professionals who will perform well in an atmosphere of trust and support."

Reform Background: In 2004, the Jordan Ministry of Education introduced a new Management and Information Stream (MIS) curriculum for grades 11-12 and hired 600 MIS teachers. While the vast majority of secondary school teachers in Jordan are qualified for teaching through completion of a university

degree – only eight of the MIS teachers originally hired had university training in the MIS Curricula.³ Over the last four years, the MoE and reform partners have supported an evolving training program that focuses on the skill improvement of all MIS teachers.

In 2004 and 2005, the ERfKE Support Program initiated teacher training by using a cascade model. Evaluations from the training program and classroom observations showed that teachers were not successfully upgrading their skills due to the loss of "information" that occurs in the cascade model. Based on the findings of these evaluations, ESP developed a new, approach to teacher development, which was piloted in 2006. The approach supports two main program activities: building the Learning Systems Design (LSD) capacity of MIS supervisors and teachers at multiple levels in the education system and piloting a new school-based professional development program. The former activity includes support for on-demand trainings of new MIS teachers and subject-specific trainings available to all MIS teachers. The latter activity supports the development of learning teams and lead teachers in 14 pilot schools.

Study Overview: In 2007, researchers with the ESP program began to investigate teachers' perceptions on the efficacy and implementation of this new, decentralized approach and how the approach was addressing the needs and challenges MIS teachers were facing in the classroom, school and institutional environments in which they work. A qualitative approach that utilized surveys and focus groups was used to collect data from the study participants.

This interim report shares the results of the baseline analysis of the new professional development approach. The study elicits the

¹ Leu, Elizabeth. The Role of Teachers, Schools, and Communities in Quality Education: A Review of the Literature. Academy for Educational Development. 2005:1.

² Avalos, Beatrice. Teacher Continuous Professional Development in Latin America: Key Issues. Presentation. University of Maryland. 2007.

³ Over ninety percent (90) of MIS teachers in this study have a bachelor's degree, though most are teaching subjects different from their university qualification.

perceptions of students, teachers, principals, lead teachers and MoE supervisory staff in 34 schools. Schools include 10 with good technology infrastructure, 10 with weak technology infrastructure and 14 with established communities of practice (CoP).⁴ The study is organized around four main questions outlined as section headings below.

Impacting the school and classroom environment has been rapid expansion of enrollment in the MIS stream in the past four years (noted in the table below) and the uneven deployment of hardware, connectivity and software in MIS schools.

	2004	2007	%increase
Schools offering MIS	200	270	35%
MIS teachers	600	870	45%
MIS Students	15,000	26,000	73%

Study Results

What are teacher perceptions of the new TPD approach?

Training: Teacher survey responses offer generally positive feedback on the implementation, content and outcomes of ESP trainings. Sixty-five (65) percent of teachers attending ESP MIS trainings indicate improvement in their basic skills; 72% agree that materials and resources provided are helpful and that they appreciate the use of modern training methods (e.g. use of technology / applications). Eighty-one (81) percent noted that the training seminars gave them confidence in their ability to teach MIS courses.⁵

Among the concerns raised by teachers were: the opportunity to count training hours toward their professional upgrading; and a desire for

more frequent training follow-up such as direct instructional support from the MoE and ESP technical staff. Teachers also indicated that securing transport to the trainings remained an issue and that trainings seminars should take place before the initiation of the school-year. Teachers and supervisors disagreed about when training should occur. Teachers prefer training occur during school hours while Supervisors prefer training occur outside of school hours. One possible explanation is that supervisors prefer that teachers be available to students during school hours.

Further Training / Professional Development: Seventy-two (72) percent of teachers indicated a need for more training in order to be a good MIS teacher. However, perceived training needs remain differentiated. Forty-three (43) percent of teachers surveyed indicated a need for more subject-specific training. The most requested subjects included: e-commerce, MIS, Programming and Accounting. Teachers in seven of eight FGs indicated a desire for subject specific training – often in new software applications. Teachers in weak technology schools or in good technology schools with poor computer lab access prioritized subject specific training over pedagogical or other trainings.

Twenty percent of teachers surveyed indicated a need for more pedagogical and communities of practice training. Training seminars requested included: instructional design, student learning, assessment strategies and CoP trainings. Teachers in good technology and communities of practice focus groups indicated a stronger preference for CoP / pedagogical trainings than counterparts in weak technology schools. Often, teachers with more experience preferred continued self-study for developing subject matter expertise and more formalized training in pedagogical skills.⁶

⁴ Schools with weak technology infrastructure has a student:computer ratio of over 15:1.

⁵ Percentages are based on a survey of 61 MIS teachers. When a teacher indicated he/she ‘Strongly Agreed’ or ‘Agreed’ to a statement – the survey team read this as a positive response.

⁶ It should be noted that only 25% of teachers in CoP schools have more than four years teaching experience compared to 65% in other schools.

Perceptions of the Professional Development Model: While nearly all teachers are aware of the new training seminars, most did not seem aware of the framework for the new professional development approach. Unless otherwise prompted, comments relating to professional development addressed training conditions and content. However, FG discussions indicated that teachers considered a variety of methods for supporting their own professional development including: the availability of more resources at the school level (including software applications and manuals), access to online courses (both this and the latter supporting 'self-study'), and opportunities to take technology / general education courses at the university.

What knowledge and skills are teachers developing under this approach? How are they transferring it into the classroom?

Pedagogy / Subject Understanding: Survey and FG responses from teachers and students indicated the implementation of pedagogical strategies in the classroom. Eighty-three (83) percent of teachers surveyed indicated that training seminars taught them to use teaching methods that concentrated on the student and 78% indicated that they applied the concepts learned in training in their classrooms. Sixty (60) percent of students surveyed indicated that teachers encourage them to work in teams.⁸

In two FGs, teachers indicated that training seminars helped them become less reliant on the textbook for teaching, and that, in some cases, their role had transitioned to that of a facilitator. Students in the same schools indicated their reasons for taking the MIS stream included MIS

teachers having a better reputation for encouraging student participation and noted that teachers were implementing role-playing, Project-based learning and case study activities in the classroom. The schools sharing the above feedback may be considered exceptional examples of teachers using new pedagogies in the classroom. The extent to which use of new pedagogies is the norm, rather than the exception, will be documented in classroom observations.

Technology: Teachers noted that technology instruction focused on teaching students ITAC, PowerPoint and Access. Fifty-seven (57) percent of students noted that the teacher did apply technology during instruction time; however, almost 50% of students noted that there are not sufficient computers for MIS classes. Moreover, only 37% indicated teachers gave them enough time to use the computers during MIS classes.

Teachers indicated that technology access/issues were one of the greatest impediments to their implementation of new curriculum and pedagogies. Teachers at all schools indicated at least one of the following challenges: limited access to computer labs, inadequate lab space, severely malfunctioning equipment, and inconsistent connectivity to Eduwave. In one FG, four of six teachers indicated teaching the ITAC accounting software from the textbook. Teachers prioritized technology requirements as needing more computers, better access to labs, and better connectivity.

What is the impact of the learning teams at the school level?

Training feedback: Ninety-three percent of Lead teachers are highly satisfied with CoP trainings seminars noting that the seminars helped improve their self-confidence in supporting learning team teachers and that MIS teachers have better skills for being part of the learning team. Lead teachers would prefer to broaden participation in future CoP trainings to include all learning team members, school principals, and non-MIS teachers. Lead teachers prioritized

⁷ Given the variation in the school technology infrastructure and teacher training and experience, the study team developed a classroom observation tool that will seek to better identify demonstration of training knowledge and skills in the classroom. Classroom observations will occur during January and February.

⁸ Thirty-eight (38) percent of CoP students strongly agree that their teacher encourage them to work as a team in compared eighteen percent in other schools.

CoP trainings over subject specific training, and indicated a desire for trainings in leadership; instructional design; and data driven decision making.

Learning team implementation: Sixty-seven (67) percent of learning team teachers meet with the lead teacher on a weekly basis in CoP schools compared to 29% in other schools.⁹ Topics discussed in learning team meetings, in order of those most frequently listed, include:

- Developing shared schedules and cooperation between learning team teachers,
- Student performance / evaluation issues and strategies for improving student performance;
- Improving performance of learning team teachers; and,
- Professional development of learning team teachers.

The above topics are discussed with greater frequency in CoP schools than in other schools and on most issues, learning teams in CoP schools work together to solve common problems (as opposed to going to the principal).¹⁰ While champion teachers highlighted the ability of learning teams to support learning of new pedagogies (79%) and boost teamwork (86%) – only 57% indicated that learning teams were the best way to clarify specific subject concepts.

The role of the lead teacher on the learning team could use some clarification. While 60% of learning team teachers agree that the lead teacher is helpful, only 33% indicate understanding why the teaching burden of the lead teacher has been decreased.¹¹

Positive Externalities: Focus Group discussions indicated that learning teams and lead teachers

exist at many schools, including two non-CoP schools in this study. These schools established learning teams with goals similar to the learning teams established in CoP schools.¹² Forty-five percent of lead teachers indicated that other subject teachers in CoP schools are adopting learning team ideas and concepts. While other schools encountered also have lead teachers, in most of these cases the lead teacher spends the majority of his /her time on administrative tasks or other work for the school principal.

Focus group participants in CoP and “good schools,” noted that MIS teachers had a strategy for introducing new MIS teachers to the school. Strategies include peer-coaching in specific subjects and pedagogies; allowing new teachers to observe experienced teachers and having experienced teachers observe new teachers.

What factors in the school / MoE institutional environment impact the professional development and successful teaching of MIS teachers?

Principal and supervisor support: Teachers and lead teachers regularly pointed to the significant influence of school and district level leadership on their work and suggested a desire for greater communication and collaboration. In seven of eight focus groups teachers registered concerns or complaints about principal or supervisor support.

Teachers indicated a desire for more information on training seminars and available resources, but noted that in some cases supervisors did not get training schedules or materials to them. In one FG, teachers indicated they were forced to attend a training they did not need. Teachers also indicated a desire for principals and supervisors to have more knowledge of the training seminars and access to training materials so they could better understand

⁹ An additional 27 % of learning teams in CoP schools meet on at least a monthly basis.

¹⁰ Ninety-three (93) percent of CoP learning team teachers indicate they work together to address student problems compared to 61% in other schools.

¹¹ Lead Teacher teaching load has been reduced by 50% so that they may support the implementation of learning teams at CoP schools.

¹² Both Al Anjera and Al Hossneia indicated interest in CoP training.

teachers' technical work.¹³ On the school level – teachers in more than half of the focus groups indicated that their heavy class-load limited their ability to collaborate with other teachers. In two focus groups, teachers indicated the principal allowed the MIS class very limited access to MIS labs.

All MIS supervisors indicated a desire to increase subject-specific and pedagogical training seminars for teachers. Supervisors also indicated that decentralizing training through formal learning groups was a strength of the new approach and that they could support learning teams without ESP support.¹⁴

According to 86% of lead teachers, learning team support from principals and supervisors would include offering the learning team a professional development room; giving more materials and equipment and offering a more flexible work schedule. Half of the principals in CoP schools 'strongly agreed' that MIS Supervisors could help learning team teachers in applying new techniques in school.¹⁵

Only half of the Head supervisors surveyed were aware of ESP trainings. However, seventy-five percent indicated an interest in playing a larger role in MIS teacher training and the majority said they would support learning teams with resources or through trainings.

General Discussion

Trainings: Teachers continue to see both subject-specific and pedagogical trainings as important in their professional development. As teachers develop subject expertise, the MoE may see an increase in demand for pedagogical trainings. However, given the technology-driven nature of MIS subjects – it seems likely that subject-

specific training seminars will continue to be desired. Teacher feedback suggests an interest in a professional development approach offering a menu of training options supporting the different needs and skills gaps of teachers coupled with structures, resources and technology at the *school level* supporting self-study and learning teams. Teachers do not necessarily perceive trainings as aligned with, or a part of their career path. A reason for this could include training hours not counting in the MoE ranking system.

Skill development / Implementation: Classroom observation in January and February will allow the study team to further quantify the extent to which subject-specific, technology application, and pedagogical skill-sets are demonstrated by teachers in the classroom and the extent to which teachers are limited by different school technology profiles. These results will be presented in the Final report in June 2008.

Learning Teams: As learning teams are in their initial stages of implementation in CoP schools – it will be important to follow teacher perceptions on learning team implementation over the school year. Of particular interest may be perceptions of the influence learning team concepts and activities in improving teaching and student learning, and clarification of the role of the lead teacher. Interim findings brought up two other questions. (i) How transferable are learning team concepts / implementation to other schools? (ii) Integration of New MIS teachers: What do good schools do? What leadership is needed?

Institutional Environment: Engagement of principals and supervisors in a dialogue around teacher workplace and professional development activities could improve what seems to be the uneven principal and supervisors support of MIS teachers. Training may not be the ideal forum through which to address teacher concerns about issues in school management and support of teacher professional development. However, inclusive professional development and training

¹³ Teachers believe that principal could better support them sharing their work in directory meetings and facilitating team work between teachers.

¹⁴ The majority of MIS supervisors supervise over 40 MIS teachers. Eighty-nine (89) percent of MIS supervisors indicated they personally need more MIS curriculum training.

¹⁵ 54% compared to eleven (11) percent in other schools.

environments could help these groups work together better, identify common goals, and support the more creative use of existing resources. The extent to which the supervisor's role has, or will change in light of the new professional development approach remains an open question. The sustainability of the MoE LSD team was not explored in this study – but may be important to note when considering the future of professional development for MIS teachers.

Next steps: Classroom observations will be completed by mid-March in order to share additional findings at the National Conference on Teacher Professional Development. In January-May 2008, the study team will implement targeted surveys, focus groups and classroom observations to further address initial research questions, and investigate selected questions raised by the baseline data. The study team will collaborate with MoE, the JEI study implementing team and NCHRD to share ideas, observations and preliminary assessments, and submit a final report to USAID in June 2008.

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