A Professional Development Model
For Phoenix International School, Hong Kong

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Abstract

The integration of technology into the curriculum is a key issue in today's schools. Whether technology should be used in schools is no longer an issue. Instead, the current emphasis is ensuring that technology is used effectively to create new opportunities for learning and to promote student achievement. (The North Regional Educational Laboratory, 2003) This paper provides a professional development model to meet the needs of the staff at Phoenix International School and to ensure the effective use of technology and its integration.

Introduction

When developing a professional development model it is important to consider many factors. In the past most professional development has been conducted away from the school, or it has been presented during a half or full day presentation with little or no support and follow up.

> If you conduct staff development without asking people to plan for the return back home, you might as well not bother. In our experience, if nothing concrete happens within thirty days after a session, nothing will ever happen. Moreover, the principal must know what the teachers are learning and be involved in seeing that it's carried out. (Senge, 2000, p. 390)

In the area of Information and Communication Technology (ICT), teachers need a solid professional development plan that includes assistance inside and outside of the classroom. A teacher learning new technology or educational theory may need assistance in an actual learning environment. Teachers have acquired different levels of ICT competence. Some teachers may have none. A teacher that has little or no competence in ICT does not make a poor teacher. However teachers and educators need to be given the opportunity to acquire the skills needed to properly meet the ICT demands placed upon today's educators.

> In a school system that is acting as a learning organization, no kind of staff development should be undertaken without taking into account what teachers, administrators and support staff already know and what specific challenges they face in educating young people. But often external trainers in "drive-by staff development" don't know what the staff already knows, what problems they face, or anything else about the school or district. (Senge, 2000, pp. 385-386)

The professional development model outlined in this paper has three different tiers in teacher development. First, teachers will be asked to fill out a questionnaire about their ICT skills. The coordinator/facilitator will then develop a professional plan to meet the needs of the teachers. The main idea of this professional development model is teachers supporting teachers. The main focus will be the teacher's strength in the area of ICT. After the teacher's strength is assessed, the professional development model will create subject support groups that help to integrate new technology/theory in a non-threatening efficient manner.

> This digital generation gap has serious consequences for schools. Indeed, I would argue that the biggest obstacle to the implementation of technology in education isn't a lack of hardware, but the fact that teachers aren't ready to use computers in the classroom. (Tenbusch, 1998, para 3)

The Professional Development Model

When designing a professional development model, it is important to know what level of competence the attendees possess. If teachers have very little or no competence in ICT, new professional development in technology may not be beneficial. A questionnaire would be a quick way to assess the educators competency in ICT, especially when working with new staff or a new school (Appendix 1). The chart has been adapted from The Kate Edger Information Commons Computer Competency Checklist (n.d.).

After the questionnaire has been completed by the educators involved, the teachers will be divided into two groups, Tier 1 and Tier 2 (Appendix 2). The first group, tier 1, will be given instruction and support with

ICT basics, whereas the other group, Tier 2, will be given professional development and support in the new technology/theory. After Tier 2 is completed, the individual reaches the next tier, tier 3. When a teacher reaches Tier 3, he/she is now qualified to give support to other educators in his/her particular subject area (Appendix 3).

ICT Committee/Team and Coordinators

The integration of new technologies into education can be quite difficult and time consuming. The creation of an ICT Committee is essential when performing whole school professional development. This team should consist of Coordinators from each level of the school, the technician and ICT Coordinator, with the support of an administrator.

Coordinators are responsible for a particular subject area in the school. These Coordinators should have basic computer skills. If the Coordinator does not have basic skills, he/she should be given adequate professional development to acquire these skills. Although an ICT Coordinator may be an expert in the use of technology, he/she may not be an expert in all subject areas; this is the responsibility of the subject Coordinator. If a school is going to put a great deal of time and effort into technology integration, it is a necessity to have ICT competent coordinators.

Phoenix International School also has lead subject teachers. It is also important that these teachers are given extra development in the areas of ICT. After the completion of professional development, the coordinators and lead teachers would then work with their subject groups to help integrate technology into their subject areas. This will also create continuity and consistency throughout the school.

Coordinators and lead teachers in a position of subject support and curriculum implementation, places should be reserved for them when conducting the first wave of professional development.

Professional Development Budget

Professional development and teacher coverage are important areas when considering what is needed in the areas of ICT. A percentage of the school ICT budget should be set aside for outside teacher professional development and teacher coverage. Teachers need support when learning new technologies and planning to integrate technologies. If the workload for teachers become too great, he/she might revert back to teaching strategies he/she is more familiar with and the money spent acquiring the new technology may be wasted. Teachers in common subject areas need time to plan cooperatively as well. These teachers may also want to take part in peer evaluation to assist with new technology integration.

Tier 1 (T1) (Appendix 2)

Tier one will consist of three different areas, Tier 1a, Tier 1b and Tier 1c. After T1c is completed the teacher will be ready for instruction in the new technology or theory. Tier 1 was created to help teachers with problem solving skills. After many observations and assisting teachers, it has been noted that many teachers at Phoenix need more technical skills. Teachers will return to more traditional ways of teaching if the problems they encounter cannot be solved quickly and efficiently (NCREL, 2003)

T1a – After the questionnaire of computer competence is completed, it is then up to the ICT Coordinator to create professional development to address the teachers needs.

T1b – The ICT Coordinator will hold sessions to assist teachers with hardware/peripheral difficulties. The hardware/peripheral instruction must not only be directly taught, teachers need to perform hands-on tasks to prove their competency. I.e. if a teacher does not know how to change the toner cartridge in a printer, he/she must perform the task after facilitator instruction with facilitator assistance.

T1c – After the teacher has completed the hardware/peripheral development the facilitator must produce a professional development plan to suit the teachers need. The software instruction must not only be directly taught, teachers need to perform hands-on tasks to prove their competency. If an educator has difficulty using Microsoft Office, after facilitator instruction the teacher must complete an activity with facilitator assistance. I.e. if a teacher has never used PowerPoint, he/she must complete a small project after instruction to prove his/her competency.

After the completion of Tier 1, the teacher may be promoted to Tier 2. The progression from Tier 1 to Tier 2 must not be immediate. The ICT Coordinator/Facilitator should assist the teachers with planning to implement some of the skills learned in Tier 1 into their lessons. I.e. the teacher may have the students create a PowerPoint presentation for to present a class project.

Tier 2 (T2) (Appendix 2)

Tier two will consist of three different areas, Tier 2a, Tier 2b and Tier 2c. After T2c is completed the teacher will be ready to support his/her peers in relevant subject areas (Tier 3). When dealing with a school that has three sections, it may not be possible to accommodate all teachers/staff when conducting professional development. Therefore it is necessary to have the subject coordinators and lead teachers attend to assist with further professional development.

T2a - After the teacher ICT competency assessment is complete, teachers who possess the acquired competence may take part in the new technology/theory professional development. Included in this group must be the subject coordinators, members of the ICT Committee and the lead teachers. The lead teachers and coordinators are in a position of teacher and curriculum support. This will be of great benefit when they reach Tier 3.

T2b – New theory or technology professional development, as previously mentioned, must not be a "one-shot" affair. Professional development must be given over a period of time. The teachers will need a great deal of in-class support and the professional development must be constantly evaluated for its usefulness and success.

T2c – After the professional development is completed and experts in the new technology/theory are created, the teachers/coordinators will create subject teams and move to the next tier, Tier 3.

Throughout the professional development sessions there needs to be constant evaluation. After each session a question and answer session may be useful as well as questionnaires and interviews. It is also very important that these evaluations are used when conducting the next professional development sessions. The coordinators and lead teachers will then work with the ICT Coordinator/Facilitator to tailor the technology professional development to suit their specific subject area needs.

Tier 3 (T2) (Appendix 3)

Tier 3 – Coordinators and lead teacher that have made it to tier 3 are now ready to support the teachers just beginning tier 2. The support can include professional development assistance, in class support, and ultimately curriculum planning.

Evaluation/Assessment and Conclusion

Evaluation and assessment of professional development is as important as the professional development itself. Effective professional development uses evaluation to ensure that each activity is meeting the needs of the participants and providing them with new learning experiences. (NCREL, 2003) When a decision for professional development is made and its' intended goals and outcomes are established, a method of evaluation needs to be adopted. Appendix 4 offers an evaluation plan that is ongoing and simple to implement. The chart was adapted from *The age of our accountability* by Guskey (1998). After the evaluation is complete it is important to revise the professional development model to adapt to the needs of the participants and students.

Hardware and Software Competencies

Name/School_____

Please fill in the following survey to help assess your ICT competency. Please be honest. **Please rate your level of computer experience on a scale of 1 to 4**
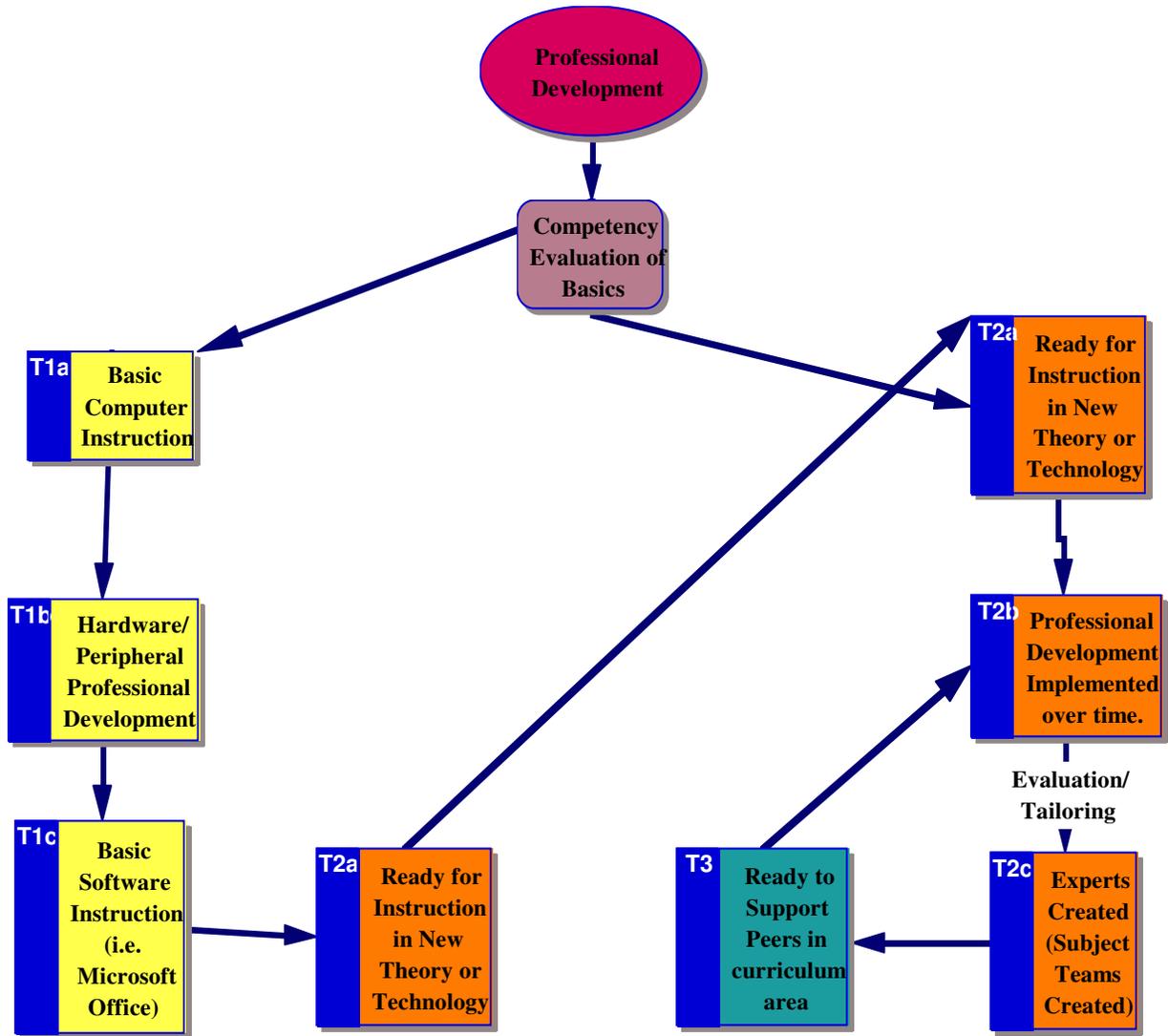**1 = Never used**
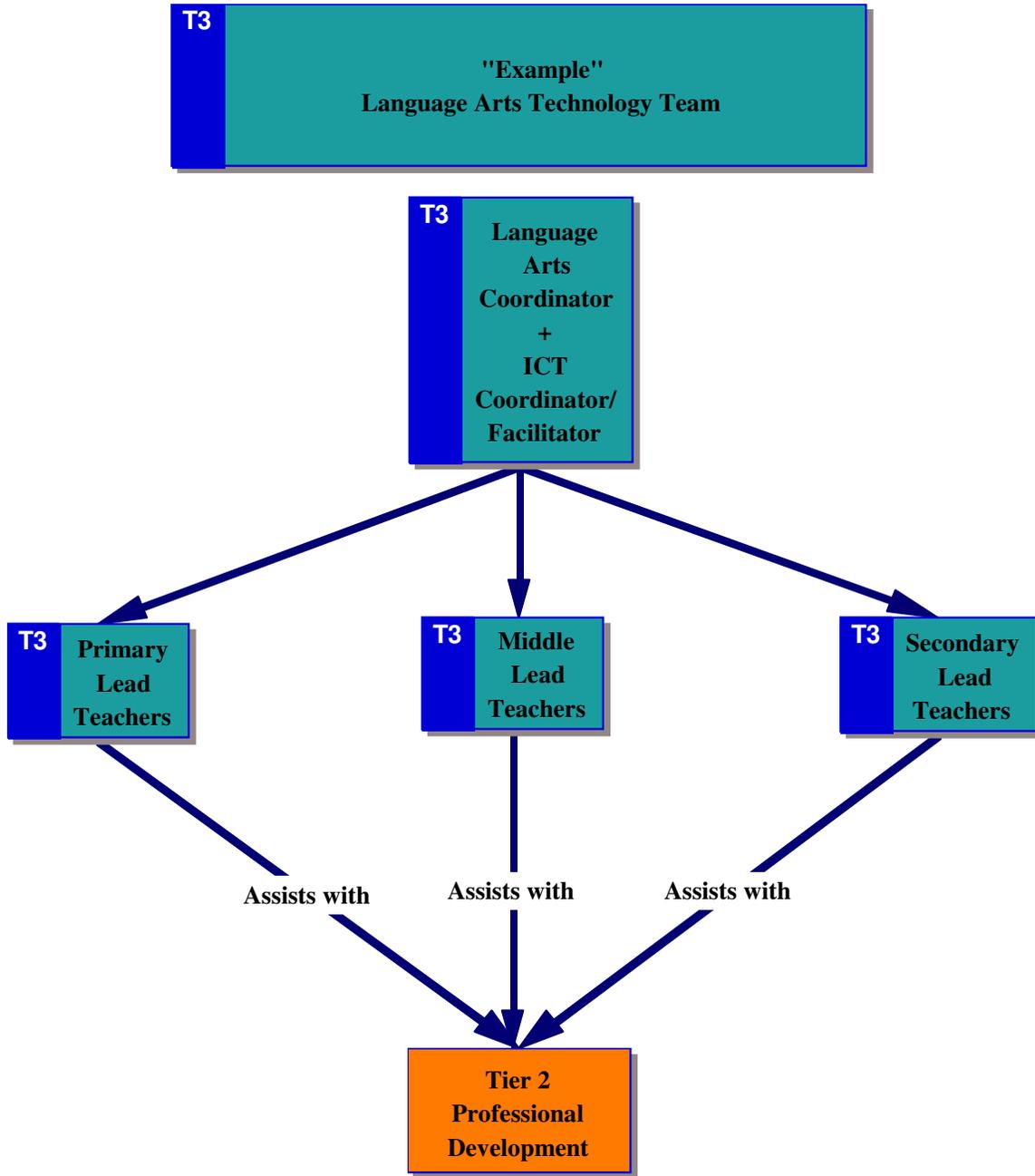**2 = Used, but not confident using**
3 = Quite confident
4 = You consider yourself an expert

	Never Used ← 1	2	3	→Expert 4
Hardware/Peripherals				
Turn on the IBM CPU				
Turn on the Mac CPU				
Connect Monitor to the CPU				
Identify Basic Mouse Functions (point, click, drop drag etc…)				
Connect the Printer to the CPU				
Change Printer Cartridges				
Manage Cancel Print Jobs				
Specify Default Printer				
Connect Keyboard to CPU				
Connect Headphones to CPU				
Insert/Eject 3 ½ Floppy (IBM)				
Insert/Eject 3 ½ Floppy(Mac)				
Insert/Eject CD (IBM)				
Insert/Eject CD (Mac)				
Operating System				
Windows XP				
Mac OSX				
Other_____				
Productivity				
Microsoft Excel				
Microsoft Word				
Microsoft PowerPoint				
Appleworks				
Multimedia				
Quicktime				
Real One Player				
Windows Media Player				
Windows Movie Maker				
Apple iMovie				
Webpage Creator				
Microsoft FrontPage				

Other_____				
Web Browser/Search Engine				
Internet Explorer				
Netscape				
Google				
Other_____				
Software Manipulation				
Installing Software in Windows				
Installing Software in Macs				
Accessing Software Readme Files				
Copying/Creating/Retrieving				
IBM				
Format 3 ½ Floppy Disk				
Copy Files to 3 ½ Floppy Disk				
Create a Folder on a 3 ½ Floppy Disk				
Retrieve Files from a 3 ½ Floppy Disk				
Write Files to a CD				
Retrieve Files to a CD				
Mac				
Format 3 ½ Floppy Disk				
Copy Files to 3 ½ Floppy Disk				
Create a Folder on a 3 ½ Floppy Disk				
Retrieve Files from a 3 ½ Floppy Disk				
Write Files to a CD				
Retrieve Files to a CD				
Mind Mapping Tools				
Inspiration/Kidspiration				

(Edger, 2003)

Appendix 2

Professional Development

Competency Evaluation of Basics

T1a Basic Computer Instruction

T1b Hardware/ Peripheral Professional Development

T1c Basic Software Instruction (i.e. Microsoft Office)

T2a Ready for Instruction in New Theory or Technology

T2a Ready for Instruction in New Theory or Technology

T2b Professional Development Implemented over time.

Evaluation/ Tailoring

T3 Ready to Support Peers in curriculum area

T2c Experts Created (Subject Teams Created)

Appendix 3

T3 "Example"
Language Arts Technology Team

T3 Language Arts Coordinator + ICT Coordinator/ Facilitator

T3 Primary Lead Teachers

T3 Middle Lead Teachers

T3 Secondary Lead Teachers

Assists with   Assists with   Assists with

Tier 2 Professional Development

Appendix 4

	Five Levels of Professional Development Evaluation	
Level	**Summary and Evaluation Type**
Level 1	Participants' reactions through questionnaires following a session; • Did the participants think their time was well spent? • Were the activities meaningful? • Did participants think the activities will be useful in practice?
Level 2	The second level for assessment examines participants' learning; it measures the knowledge, skills, and perhaps the new attitudes teachers have acquired as a result of the professional development activities, not just the subjective indications of impact. • A simulation or skill demonstration, and/or written personal reflections. *The measures must reflect the goals for that activity, meeting specific criteria outlined before the professional development experience begins. This level of assessment also must be structured to reveal any unintended learning, or results that were not anticipated.*
Level 3	The third assessment level comes after an appropriate length of time has passed. This more complicated type of assessment analyzes organizational support for the skills gained in professional development. • Was individual change encouraged and supported? • Was administrative support public and overt? • Were problems addressed quickly and efficiently? • Were sufficient resources made available, including time for sharing and reflection? • Were successes recognized and shared? *This type of analysis requires analyzing school records or the minutes of follow-up meetings, questionnaires, or structured interviews.*
Level 4	At the fourth level, participants' use of new knowledge and skills is assessed by asking whether they are using what they learned and using it well. This type of assessment requires indicators that reveal both the degree and quality of use. It will rely on; • Questionnaires or structured interviews, • Written personal reflections • Direct observation. *These measures will be ongoing at several time intervals.*
Level 5	The fifth level addresses student learning outcomes that are the end result of the professional development activity. • Did students show improvement in academic, behavior, or other areas? • Did the students benefit from the activity? • Were there any unintended results? *The outcomes can be measured by student records, observation, interviews and anecdotal notes.*

(Guskey 1998)

References

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