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Information Communication Technology (ICT) in physical education different teacher training activities involving information

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Abstract
In what ways is technology used? There are good examples everywhere. The teacher instructors interviewed at CCSU University all expressed an awareness of the practical use and the necessity for student teachers to learn how to integrate technology in teaching, even if they rated the importance of ICT in education differently Teacher trainers and student teachers have their own computers, but many mentor teachers do not always have them and they ask for pedagogical support, which also can be interpreted as an exchange of ideas. Unlike student teachers, teacher trainers and mentor teachers did not get the question about confidence in pedagogical use of ICT in the questionnaires, but asking for pedagogical support, as mentor teachers do, can be interpreted as they think they do not know enough. All three groups say it is important to have reliable equipment, and there are many stories about trying to connect devices which do not work together. Permanent equipment in classrooms could be a solution.

Keywords: Teachers to learn how to integrate technology in teaching, involving information, training activities

Introduction
Such activities include gathering, processing, storing and presenting data. Increasingly these activities also involve collaboration and communication. Hence IT has become Information Communication Technology: Information and communication technology. Some underlying principles Technology does not exist in isolation ICT contributes at various points along a line of activity ICT is used in activities the ICT use depends on the activities The key outputs of physical educational activities are context are knowledge, experience and products The output should be useful to the users (self and others) What is a useful concept of ICT? It depends on the local culture and the particular ICT available and how it is configured and managed. The understanding, management and configuration of the available technology might vary the concept of ICT from a collection of tools and devices used for particular tasks, e.g., publishing, course delivery, transaction processing. An organized set of equipment (like a 'workshop') for working on information and communication components of integrated arrangements of devices, tools, services and practices that enable information to be collected, processed, stored and shared with others components in a comprehensive system of people, information and devices that enables learning, problem solving and higher order collaborative thinking, that is, ICT as key elements underpinning a (sharable) workspace

There is no empirical evidence in the articles referred to in the research review (Enochsson & Rizza, 2009) [17] that constructivism is necessary for integrating technology in teaching, but the examples from India in regards to being prepared for unexpected situations shows that a constructivist approach is an advantage when we experience that technology development is running ahead of us. Teacher trainers interviewed from both institutions showed an awareness of the complexity of learning that comes from extensive experience and a profound interest. This was expressed as a constructivist approach, which begins with the student/pupil. One example of this is what is mentioned above about the possibility for spontaneity. Bétrancourt (2007) [18] shows in an example from the UK that the majority of ICT tools support traditional transfer pedagogy, and that the use of ICT is limited to presentations (documents) or evaluations (quizzes). This can be a risk when ICT departments are placed (physically and

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metaphorically) far away from educational activities. Technicians cannot be expected to comprise a developed view of learning it is not their profession. According to Edmund Amidon (1968) [19], "Teaching is an interactive process primarily involving class room talk which takes place between teacher and pupil and occurs during certain definable activities".

Objectives
Each report is expected to address the following research questions

- What are the national frameworks and requirements regarding the use of ICT in initial teacher training in teacher training institutions in India?
- What are the institutional frameworks and requirements regarding the use of ICT in teacher training in teacher training institutions in CCSU?
- To what extent and in what ways is technology used in teacher training institutions in CCSU?
- In what ways are student teachers prepared to integrate technology in teaching in teacher training institutions in CCSU?
- If student teachers are not satisfactorily prepared, what are the main obstacles according to the stakeholders?
- How is policy evaluated?
- Does practice correspond to policy?

Methodology
The study has mixed methods and there are analyses of observations, documents, interviews as well as data from questionnaires. The analyses cover a range from grounded theory to multiple regression analysis. Interview transcriptions, documents and comments in questionnaires have been read over and over to see emerging themes.

Questionnaire
Only two institutions out of 16 respond in the questionnaire that they have formal requirements on contracted partner schools for integrating ICT during student teachers" field placements, another responds that it is coming and one responds that it encourage it. Two institutions have formal requirements of mentor teachers for integrating ICT during student teachers" field placements, and two say there are requirements in certain cases.

Interview
In what ways is technology used? There are good examples everywhere. The teacher instructors interviewed at CCSU University all expressed an awareness of the practical use and the necessity for student teachers to learn how to integrate technology in teaching, even if they rated the importance of ICT in education differently. Several of the teacher trainers talked in political terms and explained their visions and expressed the necessity of working on a political level to change the common view of ICT and learning. The students interviewed gave good examples of ICT use by teacher trainers at the universities. One teacher trainer in IIMT brought the class to a service where teachers can borrow pedagogical games and other software for free, and this was considered as good, but the student teacher explaining this did not think it was enough just to be aware of this service. She wanted to use the service during her field placement, which she was not able to do since it was not a requirement and the mentor teacher was not interested. A course in CCSU, which was described as a good example both from subject teachers",

IIMT staffs and students' perspective was a course in social sciences. The students had to prepare thematic studies in groups, where each group were responsible for each a theme. They were asked to find resources on the Internet that could be used in their classes together with the young teenagers. The result was a plan for a thematic study with Internet resources from each group. The plans were documented on a CD and all student teachers each had a copy. The students were not obliged to use the plans during their field placements in the course, but many of them did and found them very useful. 22 but scarce. According to both students and teacher trainers in interviews and comments, the good examples disappeared in a PE of courses. According to the interviewed teacher instructors, the courses should be designed so that the use of technology comes automatically, but there is also a need to teach details in software, for example. Not only direct classroom use was important according to the interviewed students. They thought it was important to be up to date with what children and young people do in their leisure time to be able to meet and challenge this. They also talked about administrative issues, in which some of them had no training at all. Overall they saw a need for general training, to become confident users themselves. They thought this would make it easier to find solutions in the classroom. The teacher trainers want the students to have challenges, but the most important thing is that the student teachers become stable personalities and grown-ups.

Review of related literature
The definition of successful practice is questioned in the research review as is who should define it. In the research articles the concept "good practice" is used sometimes explicitly and sometimes implicitly and by different stakeholders. For example Kirschner and Davis (2003) [10] let researchers define "good practice" and present a list of key competencies including that the teachers should become (a) competent personal users of ICT, (b) competent in making use of ICT as a mind tool, (c) and competent in making use of ICT as a tool for teaching. They should also be able to (d) master a range of educational paradigms that make use of ICT, (e) master a range of assessment paradigms which make use of ICT, and (f) understand the policy dimension of the use of ICT for teaching and learning (ibid., 145) There are also the results from Sweden and Belgium (Valcke, Rots, Verbeke & Van Braak, 2007) [12] where teachers and teacher educators do not have those high expectations. Being able to use word-processors in teaching can be considered enough, according to these two studies, but parents in Scandinavia, for example, expect schools to use technology beyond word-processors, like finding and validating information on the Internet (Ramböll Management, 2006). There is a wide range of concept

Teacher trainers responded to a question on what technology use they think is important for new teachers to acquire. The questions were similar to what the students responded to regarding confidence (see further down). The trainers scored, on average, between quite great importance and very great importance to all items, but it seems that they are not able to work as they would like to in this respect. The mentors were asked to what extent they used technology in similar ways. Their responses could be "*never*", "*a few times a year*", "*monthly*" or "*weekly*". Most teaching items scored between "*a few times a year*" and "*monthly*", and only "*Foster pupils*" ability to use technology in their learning" scored higher

(between monthly and weekly). However, communication with pupils, parents, colleagues and administration also scored between "*monthly*" and "*weekly*". See further details in table.1 and 2.

Confidence in teaching -
This factor includes six items concerning use to enhance pupils "learning by "facilitating teaching specific concepts or skills", "supporting various student learning styles and personalizing learning", "facilitating teaching pupils with disabilities (cognitive, physical, behavioral)," "supporting activities that facilitate higher-order thinking", "supporting creativity", "fostering pupils" ability to use technology in their learning". The factor Confidence in management and development showed the highest average score (3.76). The factor Confidence in teaching showed the lowest average scores (2.32) but is still on the confident side.

Table 1: Shows how teacher instructors rate the importance of different technology use. The choices given were from 1 (no importance at all) to 4 (very important). The table shows average scores on each item. The highest score first

S. No	To what extent do you think the use of technology described below is important for a student teacher to acquire?	Mean score (1-4)
1.	Use of technology for student teachers" own development and learning	3.84
2.	Organising work and keep records 3.80 Communicating and/or networking with their pupils	3.78
3.	To foster pupils" ability to use technology in their own learning	3.74
4.	Communicating and/or networking with school management and educational administrations	3.56
5.	Finding digital learning resources	3.68
6.	To support creativity	3.46
7.	Designing and producing their own digital learning resources	3.51
8.	Communicating and/or networking with parents	3.45
9.	To support activities that facilitate higher-order thinking	3.3
10.	To facilitate teaching pupils with disabilities (cognitive, physical, behavioral)	3.53
11.	To facilitate teaching specific concepts or skills	3.44
12.	To support various student learning styles and to personalise learning	3.46
13.	Preparing lessons	3.53

Table 2: Shows how often mentors claim they use different kinds of technology use in their work. The responses varied from 1 (never) to 4 (weekly)

S. No.	The most frequent use first. How often is the use of technology described below present in your work/teaching?	Mean	Median
1.	To communicate with school management and educational administrations	3.66	4
2.	To communicate with colleagues	3.76	4
3.	To support various student learning styles and to personalize learning	2.84	3
4.	To communicate with parents	2.84	3
5.	To organize and manage your work	3.39	4
6.	To foster pupils" ability to use technology in their learning	3.17	3.5
7.	To prepare lessons	3.13	4
8.	To find digital learning resources	2.74	3
9.	To find digital learning resources	2.74	3
10.	To support creativity	2.64	3
11.	To communicate with your pupils	2.58	3
12.	To design and produce your own digital learning resources	2.32	2
13.	To support activities that facilitate higher-order thinking	2.5	2
14.	To facilitate teaching pupils with disabilities (cognitive, physical, behavioral)	2.46	3
15.	To facilitate teaching specific concepts or skills	2.92	3
16.	To analyze student achievement/ performance data	2.83	3

Confidence in management and development
This factor includes six items about "communication with school management and administration", "use of technology for own development and learning", "organizing work and keeping records", "preparing lessons", "finding digital learning resources", "designing and producing own digital learning resources". The reason why own development and learning is part of a factor filled with administration is partly what is mentioned above, that own learning in this sense was rarely talked about as reflection, but rather as collecting information and handing in assignments.

Regular ICT use results in higher confidence
If the computer was used for administration and course-work and also if time was spent on personal use of the computer, the students scored higher on the Confidence in management and development factor and distance students showed significantly higher average than campus students on this factor. This means that using an LMS and offering blended learning, significantly correlates with future teachers confidence in using technology for management and development in different ways. It is important to note that it is the same kind of use, and it does not increase the student teachers" confidence in integrating ICT in teaching.

What are the obstacles?
Organization with lectures in large groups oppose students' individual training needs In interviews and comments to the questionnaire there is a recurrent statement saying that what the students learned regarding ICT at the university is on a very basic level, and it does not cover their needs at all. They have learned more technological use elsewhere. Technology is not adjusted to the students" different competence levels. The fact that many students need basic training leads to other students getting bored because of the low level of technology use. The system with lectures in large groups at the university does not promote individually adjusted ICT use. The issue with students "different levels of general digital competences

was also raised by several of the interviewed teacher instructors.

The students also asked for more subject-specific ICT knowledge, which they thought could be best carried out in, for example, small workshops where they could try things out themselves and also to be shown how digital resources can be used in lessons.

Reliable equipment wanted

But there is no need for high quality equipment In the questionnaires, teacher instructors, student teachers and mentor teachers rate the importance of different kinds of support from 1 (No importance at all) to 4 (very great importance).

All suggestions except for "Task related incentives" (which was not in the students "questionnaire) score between 3 and 4 on averages, which indicate a real need for support. All three groups rate the "Reliability of equipment" the highest. There is also an agreement among the groups that "Availability of high quality equipment" is less important. The differences among the three groups are quite small, but teacher trainers put "Dedicated time in courses to prepare, explore and develop" as second, students want "Training/courses in pedagogical use of ICT" and mentors ask for "Pedagogical ICT-support.

Discussion

A multiple regression analysis was carried out. The independent variables were age, gender, different kinds of technology use in courses and field placements and self-reported quality of support. Since there were three dependent factors in the analysis, the significance level was set to 0.01. No independent variable reached this level of significance for the Confidence in communication factor, but there was a tendency that male students showed more confidence in this respect. It is known from other research that male respondents show a higher degree of confidence in using technology, so this should not be surprising. There is also a tendency that pedagogical use of computers in field placements correlates with this, but this factor correlated with all kind of use at field placements, which was not tested and should be interpreted with that in mind.

Conclusion

The research review also shows that a policy within a rapidly changing field has to be flexible. What can be seen so far in Sweden is that the policies are flexible and quite well developed. Indian teacher training has problems putting policies into action. One reason is said to be the teacher instructors who are not interested in technology and want school to be a computer free zone. They exist, but according to the study they are not in majority. It seems to be more a problem of discourse some teacher trainers in the study do not clearly see the critical view of the ICT advocates. An unprejudiced dialogue might help.

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