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Stichting NIOC (www.nioc.nl) stelt zich conform zijn statuten tot doel: het realiseren van congressen over informatica onderwijs en voorts al hetgeen met een en ander rechtstreeks of zijdelings verband houdt of daartoe bevorderlijk kan zijn, alles in de ruimste zin des woords.

De stichting NIOC neemt de archivering van de resultaten van de congressen voor zijn rekening. De website www.nioc.nl ontsluit onder "Eerdere congressen" de gearchiveerde websites van eerdere congressen. De vele afzonderlijke congresbijdragen zijn opgenomen in een kennisbank die via dezelfde website onder "NIOC kennisbank" ontsloten wordt.

Op dit moment bevat de NIOC kennisbank alle bijdragen, incl. die van het laatste congres (NIOC2023, gehouden op donderdag 30 maart 2023 jl. en georganiseerd door NHL Stenden Hogeschool). Bij elkaar bijna 1500 bijdragen!

We roepen je op, na het lezen van het document dat door jou is gedownload, de auteur(s) feedback te geven. Dit kan door je te registreren als gebruiker van de NIOC kennisbank. Na registratie krijg je bericht hoe in te loggen op de NIOC kennisbank.

Het eerstvolgende NIOC vindt plaats op donderdag 27 maart 2025 in Zwolle en wordt dan georganiseerd door Hogeschool Windesheim. Kijk op www.nioc2025.nl voor meer informatie.

Wil je op de hoogte blijven van de ontwikkeling rond Stichting NIOC en de NIOC kennisbank, schrijf je dan in op de nieuwsbrief via

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Reacties over de NIOC kennisbank en de inhoud daarvan kun je richten aan de beheerder:

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Vermeld bij reacties jouw naam en telefoonnummer voor nader contact.

Success in selecting & implementing CAL; some guidelines

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Although this presentation was prepared from the perspective of a central service dealing mostly with computer-aided-learning (CAL) in higher education, many of the guidelines or recommendations offered can be transferred to those working in a business setting. Indeed the differences between "commercial" and "educational" orientations are becoming less and less due to the current stress in higher education on becoming more cost effective, more market-place sensitive, and by experiencing real internal competition among themselves to attract "customers" (students) for their own form of training or education.

We also start from the basic assumption that a training coordinator or educational service agency exists at the given company or school and that some person or group is responsible for making a decision (yes/no) about selecting or implementing CAL projects. The early days (1970's and '80's) of CAL were frequently marked by a "let's try it and see" or "shotgun approach" mentality. The latter meaning start as many projects as possible; one will surely hit the target. That policy is no longer viable.

Another factor making decisions difficult, especially for one having a background in media or educational technologies, is the merging of the various technologies into a single medium, e.g. "multimedia computing". A training or educational consultant in the early days could often make use of a media decision matrix (see Leiblum, 1980), outlining the features or attributes of each medium, e.g. film, radio, instructional television, slides, "live lecture", etc. to decide which specific mediums could best resolve a training problem. Now almost all mediums can be integrated into one, as interactive, multimediated instruction becomes available on the information highway.

Still, few, certainly in this country, have access to all the technologies and materials. Most trainers and educators (outside of "informatica") must make do with outdated equipment, insufficient number of units and funds, and ready-made software. Selecting and implementing the "right" kind of projects becomes critical; quite often only one mistake will be allowed before an entire faculty or staff is turned off to the medium forever.

To help categorize the various stages of CAL one may find in an educational setting, five can be identified: 1) complete unfamiliarity, 2) orientation, 3) introductory, 4) regular, and 5) integrated or "productive" usage. Many faculties now find themselves somewhere between stages 3 and 4. This is characterised by sorting out or establishing policies, creating budgets, finding a CAL coordinator and developing an implementation plan and protocols. This talk is aimed mostly at those finding themselves at or near stage 4. We use the metaphor, "hitting the bulls-eye" to identify four important impact points.

The first is to clearly recognize the critical success factors that normally accompany CAL usage. In total we identify 11 factors that can be divided into three hierarchical levels: the strategic, the organisational, and the operational level at an educational institute. On the basis of an investigation, those responsible can uncover in which part(s)/department(s) are the conditions most "ripe" for a successful implementation. Some measuring instruments that we developed may be shown.

The next step is to place the target, that is, determine what type of project is most likely to succeed in the selected environment. An inquiry can be held among all staff from the selected department, e.g. the one most propitious for CAL. Questions to be included should be addressed at a portion of a teacher/trainer's course and can be rated on six criteria: 1) the basic teaching objective(s), 2) desirability/need for improving education, 3) teaching staff cooperation, 4) stability of learning materials, 5) target group size, and 6) cost of training. The higher a particular course component scores on these criteria, the more likely it is to become chosen for a CAL solution. The stress is on a problem searching for a solution rather that the opposite.

The third step can be to follow the experience of the "master"; those who already have made successful usage of CAL. Twenty-one successful applications are described in a book titled, De kwaliteiten van computerondersteund onderwijs (Mirande,M. (Red.), 1994). Therein it appears that in higher education, CAL is successful in five different ways: 1) removing deficiencies, 2) increasing practice opportunities, 3) substitution for group work, 4) renewal of laboratory work, and 5) efficient (self) testing and final test preparation.

The final point is to continue trying until the shot has hit the bulls-eye. Refinement or tuning is always necessary when introducing an innovation. If the environment selected in the first two phases is appropriate, some allowance for near misses will be tolerated. Quality control of contents and strategies followed by regular maintenance will mean hitting the target.

Reference

Leiblum, M., A Media Selection Model Geared Towards CAL, Technical Horizons in Education (THE) Journal, 2, 29-34, 1980.