

6-27-2006

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Recommended Citation

Dick, Geoffrey; Case, Tom; Ruhlman, Phil; Van Slyke, Craig; and Winston, Michelle (2006) "Online Learning in the Business Environment," *Communications of the Association for Information Systems*: Vol. 17 , Article 41.

DOI: 10.17705/1CAIS.01741

Available at: <https://aisel.aisnet.org/cais/vol17/iss1/41>

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Communications of the **I**nnformation **S**ystems
Association for **I**nnformation **S**ystems

ONLINE LEARNING IN THE BUSINESS ENVIRONMENT

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ABSTRACT

This paper summarizes the discussion at an AMCIS 2005 panel concerned with the significant use of e-learning in the corporate environment. The panel discussion considered e-learning in the both University and corporate environments with the objective of determining what lessons one might learn from the other. While both uses of e-learning are in their infancy, both are expanding very significantly, both have similar but slightly varying objectives, and both have similar drivers and constraints. The paper concludes by providing a list of potential problem areas and matters for consideration in providing education in this way, including the design of learning modules and their content, the size of these modules and their relevance to the workplace.

Keywords: online learning, e-learning, education, training

I. INTRODUCTION

This paper summarizes the panel discussion at AMCIS 2005 on online learning. Three of the panelists were Information Systems faculty members, all involved in online learning and online learning research, and two were from the Gallup Organization – the CIO and Director of online learning. The paper considers the development of online learning, including the drivers and constraints, some recent research on the preference and satisfaction with such systems, and the impact of culture. It then presents an overview of the Gallup Organization's online learning activities and concludes by summarizing the similarities and differences suggesting areas for modification and enhancement.

As background, several consulting groups have reported that they are expecting very substantial rises in corporate resources devoted to online learning (or e-learning). Gartner in 2001 suggested \$33 billion in 2005, rising from \$2 billion in 2000; IDC in 2003 suggested \$23.7 billion

by 2006, rising from \$6.6 billion in 2002; and Cortona in 2002 expected \$50 billion by 2010, rising from \$5 billion in 2001. (Source eMarketer). Some caution needs to be exercised in using these figures as there is some variation in the markets covered and in the type of expenditure included, however, if only a portion of these expectations come to be realized, the change will still be significant. In addition to this expected corporate expenditure, while specific figures or estimates are not available, anecdotally at least, universities and schools throughout the world are rapidly expanding their online offerings and using a form of online learning to supplement, enhance, or replace their more traditional offerings.

As the universities and corporate learning centres both take advantage of this evolving technology, some overlap and indeed, some competition, might be expected. Moving on from the expansion factors [Alavi, 1994] and efficiency [Picoli et al, 2001] research, it was the feeling of the panel members, particularly the faculty members, that the rapid rise in corporate online learning and the techniques followed there, may present a real challenge to universities in maintaining their student base. As such this paper serves as a warning to university administrators and online educators in the academic arena to urgently consider what might be done to maintain their position, particularly for those institutions that derive a significant portion of their revenue from providing business related post-graduate degrees. This paper commences by providing an overview of online learning (with a managerial focus), then looks at the issues of satisfaction and culture, before turning to a specific corporate online learning platform (Gallup). The paper concludes by looking at the lessons that the academic community might learn from the corporate environment.

II. DEVELOPMENT OF THE ONLINE LEARNING PLATFORM

Technology and the changing workplace provide an opportunity to both individuals and the organizations for which they work to approach learning and skill base development in a different way. It is no longer necessary for individual employees to gather together at the same time and in the same space. Training and learning can be provided on an “as needed” basis to individual staff members at a time to suit them (and their work commitments) and timed to suit the workplace skill requirements. The ubiquitous nature of the Internet and computing and communications technologies allow training and learning to be provided in a different format. Indeed the issues are becoming increasingly interlinked to performance management – see Figure 1, which, taken from a popular commercial site, is an example of an Integrated Web-Based Performance Management System.

DRIVERS AND CONSTRAINTS

A primary driver of online learning is the “bottom line” [Galagan, 2000]. Training or skills and knowledge acquisition is expensive – removing staff from the workplace, the use of teaching or training personnel, physical resources such as rooms and equipment, and the provision and maintenance of course material all contribute to a large corporate expense.

A secondary, but related, driver is improved productivity [Bullock, 2001]. Human Resource Information Systems now highlight skill deficiencies in individuals and in the organizational work force as a whole. The provision of the required knowledge and skills as an extension of the human resource (HR) systems seems a logical step. The technology allows both the individual and the organization to take advantage of the desire for synchronous or asynchronous learning and not disrupt the current focus on providing services “24/7/365”. It is desirable that systems providing online learning be customizable to the individual to take advantage of the particular circumstances applicable to that person. This leads to the customization of course content – not all individuals need the same level of skill or knowledge, and not all individuals start from the same base. The focus on course content requires highly navigable learning modules (or courses), which in turn forces the content developers to concentrate on easy development and easily modified content, the use of standardized modules and re-use where possible. The possibility of the course content being required in a multilingual format provides an added

challenge. It can be seen that to some extent these requirements limit the type of course content that can be provided.



Figure 1 - Source: ExecuTRACK Solutions

Used by permission: ExecuTRACK Software, Inc.

Standardization is evident too in the business systems - SCORM (Sharable Content Object Reference Model) is a set of technical standards that enable web-based learning systems to find, import, share, reuse, and export content. This gives instructional designers, managers, and writers a specification by which educational courses can be distributed as "plug-and-play." AICC (Aviation Industry Computer Based Training Committee) is another standard for computer managed instruction and it permits e-learning programs to pass information to each other. For example, a simulation program could integrate with a quizzing program to receive results.

Assessment and feedback are built in to most such online learning systems – partly to reinforce the learning and partly to ensure a satisfactory standard is achieved before the learner moves to the next level. Such assessment and feedback can (and is) modified to report achievements to management and as such can be used for bonuses, performance reviews, promotions, and so on.

Skill deficiencies and centres or areas of excellence are identified via gap analysis, perhaps by the use of intelligent agents, and the systems report appropriate managerial activity. Another approach is to allow individuals to “sign up” for courses and skill acquisition that they, as individuals, identify as valuable.

Other drivers include HR metrics, (not unrelated to the bottom line and productivity mentioned above), compliance with legislation (an example might be Occupational Health and Safety requirements), ease of use of such systems, coupled with an increasingly computer literate workforce, and perhaps, vendor reputation.

SATISFACTION

No doubt partly due to the rapidly evolving nature and expansion of online learning, there is little definitive research relating to the satisfaction with, or the efficacy of, the technology. However, there is at least an indication that this method of learning is not the preferred method [Mowbray

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and Dick, 2003] and that satisfaction may be related to perceived benefits to the individual, even though the main drivers tend to be benefits to the organization [Dunstan and Dick, 2004]. This presents particular problems for the champions and promoters of such learning in organizations – they may need to concentrate on selling the idea of online learning to groups and individuals to ensure its acceptability.

There is however another approach – the research on satisfaction and efficacy may be misdirected, or at least no longer appropriate. In the light of the expected expenditure in this area over the next few years and the expected bottom line driven implementation of online learning, perhaps researchers, instead of asking how good is online learning compared with a more traditional approach, should be asking “Is it good enough?” or “What is online learning’s ROI?”

Depending upon the goals of the distance learning program, a more efficient and accessible program may be acceptable, even when learning is inferior to face-to-face. The key here is whether learning outcomes can be achieved. In some instances, learning that is sub-maximal may be sufficient and, due to cost savings, may be a reasonable approach.

CULTURE

For most organizational online learning, the issue of culture becomes important. Many organizations employing online learning cross national and ethnic boundaries, and it would seem that what suits in one cultural area or nation may very well be unsuitable in some form in another. Telecommuting (working from home or at a distance) provides a useful set of literature [Belanger, 1999] from which to view online education (studying from home or at a distance). This literature demonstrates to us that in different circumstances users may have different attitudes and outcome expectations. Figure 2 below was used to depict the influence of different cultural aspects on the fit to learning outcomes.

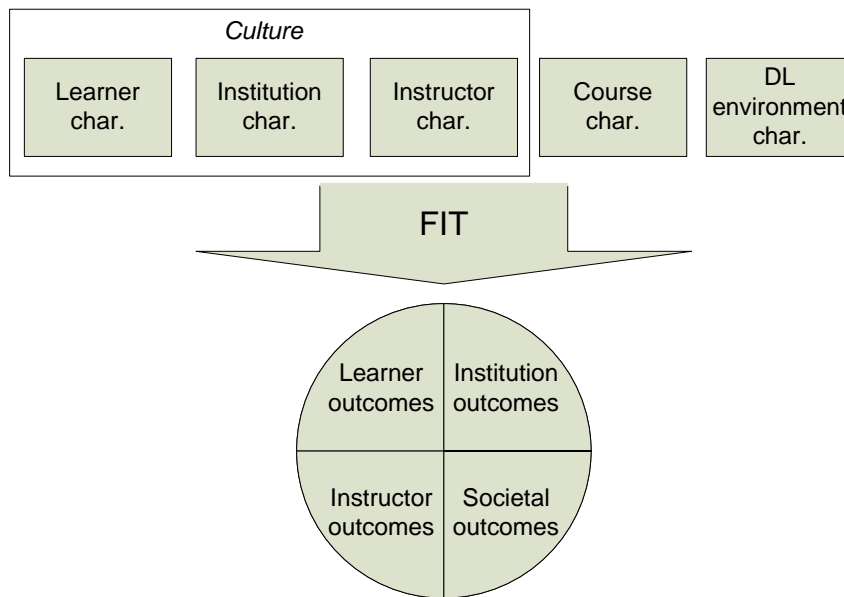


Figure 2 - Fit and Distance learning outcomes

Again there is little literature on this topic in relation to online learning, but some preliminary research suggests that there may be some cultural variation evident in what impacts a person’s intention to adopt online learning – particularly relevant if it is offered as a first choice alternative. There is some evidence from this research that, of the Hofstede [1994] factors of power distance, collectivism, masculinity and uncertainty avoidance, all but collectivism may explain some of the behavioral intent. As an example, users in North America and Australia and New Zealand

reported higher intention to use online learning than potential users in Central America – a factor that seems to be partially explained by cultural outlook [Van Slyke et al 2003].

This issue is of course not limited to the business environment; if there are cultural implications, they are likely to be relevant to universities operating on a global basis.

III. ONLINE LEARNING IN THE GALLUP ORGANIZATION

The Gallup Organization has offices in 54 countries, with the Headquarters in Washington, D.C., and Operations Headquarters in Omaha, Nebraska. Most readers will be aware of the Gallup poll – this covers about 80% of the world's population, but the Gallup Organization is much more than the poll. There are around 1,500 full time employees, and most of its clients are Fortune 500 companies – in fact most Fortune 500 companies are clients. Data are collected on employees and customers and fed back into client organizations for managerial decision making and assessment.

The Gallup University in Omaha, while running some face-to-face classes including MBA classes, has around 150,000 students – largely all involved in some form of distance learning.

Gallup is both a consumer and a producer of distance learning products. As a consumer, it subscribes to instruction provided by 3rd party vendors. It also uses materials that it sells to other organizations as part of its management consulting activities.

Gallup develops its own online instruction for training new employees. The proprietary, internal e-learning system is based upon a *learning object* model. This is based on having a number of learning events that are selected and sequenced for a new associate, based upon the individual's role at Gallup. For instance, a new interviewing manager would receive instruction on the outbound phone system, while a consultant might receive training on how to communicate effectively with a client. Both would go through core materials on benefits, submitting travel expenses, and understanding one's role as a Gallup citizen. Each job has a unique sequence of learning events associated with it. All of these events are housed and tracked within a single system. These events are updated frequently and accessed by a moderate number of users. As such, the model is granular in that elements can be inserted as appropriate. Although the system will suggest a sequence of events, this sequence can be varied by the manager with changes and insertions as necessary. It is very flexible and customizable with a highly developed content management system; it has been designed as a system to be used by non-experts.

Figure 3 is a screen-shot of the login page for the internal e-learning system.

When users log in to this system, they are presented with a personalized program of instruction that is based upon their job requirements. A new associate's manager may have configured their learning program prior to login. That manager may have added a number of learning events, such as scheduling a short meeting with work partners and completing an offline activity.

As an example, a new associate might be required to gather (or "scavenge") information about various company activities. The "user interface" for the Scavenger Hunt system includes "stamps on a passport" indicating that the learner has completed all required events for a particular section. Dates for completion or visits are included (See Figure 4).

If the user is configured as an administration user, he, or she, can create custom roles and events. Course builder and quiz builder utilities facilitate the construction of learning materials.



Figure 3 - Gallup's Internal E-learning system

This administration component was designed for use by Gallup's managers, to allow them to easily add new material to the system and to create custom learning programs for their associates. The system facilitates oversight of learner activity by the managers. So, for managers who elect to use this system, there is an efficient mechanism for tracking learners and controlling what they see and do. A potentially logical (albeit perhaps not very cost-effective) extension of this system would be to present learning events that aligned with a learner's style and intention. For example this might facilitate "multiple intelligences" and liner/non-linear strategies for learning.



Figure 4 - The Scavenger Hunt Passport

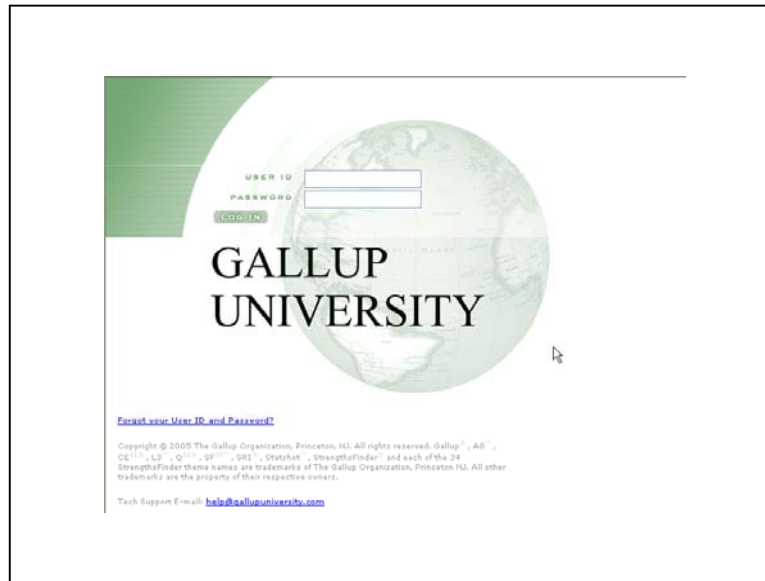


Figure 5 – Gallup’s External E-learning system

As a producer (Figure 5), Gallup’s external e-learning system is designed for high-volume use. It adheres to industry-standard e-learning protocols and is not as easily customized as the internal system. The materials presented on this system support some of the company’s major practice areas: Strengths, Selection, and Workplace Engagement. This system needs to be highly scalable to cope with the 100,000+ students.

Gallup University Online is Gallup’s metrics reporting and e-learning system. All of the practice areas use this venue for publishing client-specific performance metrics. The e-learning supplied here is designed to help users understand, evaluate, and take action upon the data Gallup collects and aggregates.

Each user is supplied with a unique ID and password in order to maintain security over the data presented, and to associate learner roles and activity. Gallup University Online currently supports over 540,000 users, of whom over 100,000 are using e-learning.

There are certain levels of customization built in to this program, but not at that granular level supplied in the internal, Scavenger Hunt program. There are learning roles based on an individual’s designation as an associate, manager or coach, so course material explaining the basics of workplace engagement for an associate might be augmented with interpreting the engagement scorecard for a manager.

Personalized instruction is included for the Strengths practice, however. An individual’s learning program is sequenced to align with results of the Clifton StrengthsFinder™ assessment, a part of the application designed to identify the particular strengths and expertise of individuals. Reports and talent theme sequences are ordered based upon responses from a 30-minute assessment.

In line with a ‘theory of intrinsically motivating instruction’, the system withholds certain key reports pending learner progress through course modules. For instance, a manager may not receive their business unit scorecard until they’ve demonstrated satisfactory understanding of the course material. Learner’s theme sequence reports are not revealed until course requirements are met. Furthermore, the system includes built-in monitoring of learner activity at the business unit and organization levels. Managers have access to the monitoring system and can track and encourage learner participation.

Learner participation tends to have greater variability across work units than by individual. It has been found (perhaps not surprisingly) that if a manager has a positive attitude towards the system, the workers are likely to adopt it more readily – in addition Gallup suggests a number of charging initiatives that should encourage take-up.

In summary then, Gallup offers e-learning designed around specific goals in order to facilitate its business objectives. The e-learning modules are customizable where necessary and able to be configured in a way that should be of immediate relevance and use to the student. The content can be modified to take advantage of local conditions or minimize constraints and is available to a large number of students.

Gallup's content is also available for use by other organizations. It is able to leverage the e-learning content that it has developed for use by other organizations, especially for generic courses or learning modules on topics such as leadership and the characteristics/behaviors of effective managers. The bottom line is that some e-learning modules are both reusable and have commercial value. Purposeful packaging of learning modules by Gallup and other e-learning content providers has the potential to reshape online education delivered by public, private, and for profit universities.

IV. DISCUSSION AND CONCLUSIONS

There are certain key differences to observe between the two education venues – those of the university and corporate environments. Most notable are the goals of instruction.

In academe, the goal is to ensure that we maximize student comprehension. An ancillary goal may be to influence student attitudes toward the subject. An education production function would evaluate all inputs (student demographics, materials type, learner traits, and so on) and use knowledge gain as the output.

In the workplace, on the other hand, the aim is to improve organizational performance and maximize labor productivity. Those four causes of labor performance are motivation, knowledge and skills, ability, and tools/equipment. So e-learning (knowledge) is a factor – but desired behavioral changes are impacted by the other three causes. We have come to know that the single greatest variable impacting learner participation and behavioral changes (indicated by instruction) is the manager and manager's attitudes. For instance, Gallup sees more variation across workgroups than across individuals within a given workgroup. So, clever design of instructional materials is important, but it may not matter if the learner determines that participation is not supported by those who directly influence pay and rewards.

That said, there would seem to be several aspects of e-learning in the business environment that may be of benefit to academia:

- Content – the small size of learning modules enables a degree of customization. The learner can put together, or have put together for him, the modules that contain the knowledge required, taking into account prior knowledge or irrelevant material.
- Relevance – business e-learning is related closely to work objectives. As such, the learning modules may be more likely to be remembered or “learnt” as the user reinforces the learning by immediate application. There are perhaps two useful pointers here for academic users of distance learning – one, to try and provide practical applications that enhance the learning experience, and two, to allow the student to undertake the modules as they best fit his experience, rather than in accordance with a course schedule.
- Size – it is evident that business e-learning modules are designed to fit into the employee's available time periods. Academic courses, on the other hand, tend to be designed around fixed semester periods, with the student having several hours available at a stretch to undertake learning. As the student population tends to move away from a full-time base, perhaps it is appropriate for courses to be re-designed to take this into

account. This is perhaps more relevant for graduate courses and in particular MBA type programs.

- Standardization – the business environment seems to promote re-use and the incorporation of standard packages, SCORM and AICC are examples. This suggests there may be cost benefits for the universities in following a similar approach.

In conclusion, the panel provided an opportunity for faculty members to discuss the academic approach to the design and implementation of distance learning with one of the major business users. It was evident to those taking part that e-learning in the corporate environment is well ahead of the distance learning in the university systems and that the academic community can learn from their progress. Universities increasingly rely on fee income from graduate courses – often aimed directly at business employees. It will take very little for business to begin incorporating what they see as the essential knowledge and skills elements required of their staff into the existing e-learning systems. It might be expected that negotiations would take place for such material to be included for credit in university degrees.

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IAIM – the AIS Special Interest Group on Education and is the Treasurer of the Australasian chapter of AIS.

Thomas Case is a Professor of Information Systems at Georgia Southern University. His primary teaching responsibilities include data communications, digital commerce, and information systems strategy and policy, and XML applications. All his courses are Web-supported or Web-based. His research interests include online shopping/buying, technology adoption/diffusion, and information systems pedagogy. He has held numerous leadership roles in AIS SIGED: IAIM and SAIS and serves as the managing editor of the Journal of Informatics Education Research. He has authored three textbooks and was the 2004 recipient of Georgia Southern University's Excellence in Contributions to Instruction Award.

Philip R. Ruhlman is Chief Information Officer for The Gallup Organization, as well as a member of its Executive Committee. He joined Gallup in 1991, and has served in his present role since 1999. As Gallup's Chief Information Officer, he leads the strategic planning for and implementation of information systems used by Gallup's clients and associates. His mantra is "It's the people, not the technology," and his mission is to assemble, manage, and retain the brightest and most talented technicians in the world to support Gallup's business needs. Under his leadership, Gallup's Information Systems team has grown from 35 associates in 1991 to more than 180 in 2003. He is a member of the Omaha CIO Forum and a board member of the Omaha, Nebraska, chapter of the American Lung Association.

Craig Van Slyke is an Assistant Professor of Management Information Systems, and has been a member of the University of Central Florida faculty since 2000. He teaches courses in database administration and electronic commerce at both the undergraduate and graduate levels. Prior to joining UCF, he taught at Ohio University. He holds a Ph.D. in Information Systems from the University of South Florida. Dr. Van Slyke also spent many years in the information technology industry in a number of capacities. His current research interests focus on issues related to the adoption of information and communication technologies. He also does research in information technology personnel and virtual teams. Dr. Van Slyke has published in a number of journals including the *Communications of the ACM*, *Communications of the AIS*, *Decision Sciences*, *the Academy of Management Executive*, and *Database for Advances in Information Systems*, among others. In addition, he has presented papers at many academic and professional conferences.

Michelle Winston is the Product Manager for Gallup University Online, Gallup's online learning and reporting portal. Since joining Gallup in 2001, her specialties have included business analysis, project definition, systems design, and project coordination. She has been the principal architect of an innovative platform for internal e-learning, was instrumental in the development of Gallup's e-learning courseware for clients, and coordinated a significant redesign of Gallup University Online.

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Communications of the Association for Information Systems

ISSN: 1529-3181

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