

Guest Editors' Introduction: at the nexus of mentoring and technology

By: WILLIAM A. KEALY AND CAROL A. MULLEN

Kealy, W. A., & Mullen, C. A. (2003). Guest editor's introduction: At the nexus of mentoring and technology. *Mentoring and Tutoring*. 11(1), 3-13.

Made available courtesy of Taylor & Francis: <http://www.tandf.co.uk/journals/carfax/13611267.html>

*****Note: Figures may be missing from this format of the document**

With the ever-increasing role of technology as an innovative force in society, we have witnessed major changes in the types of education being developed and in how learning and instruction is conceptualised. Consider, for example, the dramatic rise in the number of Internet-based courses offered in higher education as well as the evolving role of the teacher as creator of learning environments. Accordingly, considering the possibilities and limitations of mentoring in this new and dynamic technological context is both timely and relevant. It is the nexus between mentorship and technology that is the subject of this first special issue of *Mentoring & Tutoring*.

Technology-driven initiatives and electronically delivered programmes are revolutionising how we work and learn. Developments in telecommunications, in particular, have led to an explosion in 'online' instruction. Similarly, the technology revolution compels us to raise questions regarding mentoring. Do the wonders of electronic mail, synchronous or 'live' online discussions, and the Internet offer capabilities that can enhance the mentorship experience? If so, in what ways might mentoring either change or remain the same? Is it even possible to speak of mentoring at a distance? Ultimately, these questions force us to ask ourselves what it is to be a mentor.

Within the current issue of *Mentoring & Tutoring*, individuals and groups from the United States, the United Kingdom, and Australia explore the nexus between mentorship and technology and its significance for mentors and protégés alike. Collectively, these '3 authors share a number of initiatives that incorporate technology as a means for implementing, extending, and enhancing mentoring activities. At the same time, the writers reflect and report on the expected and unanticipated results their initiatives have had in redefining the concept of mentoring. Their stories on the emerging influence of technology on mentoring theory and practice form a mosaic of organisational contexts that span a variety of populations, contexts, institutions, and countries. Through qualitative and quantitative methods of research, as well as historical and scholarly perspectives, visions of electronically delivered mentorship have been articulated herein to provide material for our interest and insight.

In the spirit of scholarship, it is likely that readers will follow the ensuing discussion on the prospect of 'e-learning' and 'telementoring' with a mixture of open-mindedness, discernment—and perhaps a touch of scepticism—as the benefits and drawbacks of the New Technology are weighed. Such a balanced assessment is healthy. Given the positive, pro-technology stance that often accompanies reporting on technology infusion in teaching, it is important to pursue a 'critical understanding of the gains and losses connected with the educational use of computers' (Bowers, 1998, p. 77). In other words, any discussion on the application of technology to mentorship requires the thoughtful and judicious consideration of all aspects of the mentoring enterprise—personal, interpersonal, institutional, cultural, evaluative, and pedagogical (Mullen, 2002).

Despite the present popular interest in matters related to the adoption and use of technology in education, the relationship between technology and mentorship has yet to emerge as an area of research and public debate. Though personal tales of degraded and lost opportunities for guiding learners due to insufficient technological support may be common, such anecdotal evidence is of limited usefulness to teachers and administrators with an investment in mentorship. On the contrary, an intentional and systematic research agenda that focuses on

mentoring and technology can provide a clear understanding of how the former is facilitated or undermined when the latter is, respectively, available or non-existent. Considering the numerous programmes that have attempted to marry learning with technology, the problem of technological infrastructure and its implications for mentoring is particularly germane for researchers who have an interest in mentorship.

Healthy scepticism notwithstanding, the 'marriage' of mentoring and technology has undeniably benefited the sphere of mentorship in many respects. This point is exemplified by Packard's article, 'Web-based Mentoring: challenging traditional models to increase women's access,' that reports on the heightened support that students receive from electronic mentors, specifically in the area of career development and professional identity. A complementary point is made by Boyer about how technology aids the identity development of school and university leaders, in 'Leaders Mentoring Leaders: unveiling role identity in an international online environment'.

Significant Features of this Issue

The Human Dimension of Technology

As stated in our Call for Papers, typically one associates mentoring with human capabilities, attributes, and behaviours. Technology, by contrast, often invokes thoughts of computers and a world of digital processing that bears little resemblance to the realm of human feelings and emotions. Hence, at first glance, the theme of this issue may strike some readers as an oxymoronic and ill-fitting juxtaposition of concepts that are, by implication, polar opposites.

To our delight, authors responded to this conundrum with reports on innovative projects that highlight the human dimension of electronic communications, presenting lessons for all who rely on technology to teach, guide, and counsel, often remotely. Such perspectives are neatly summed up in the current issue's lead article, 'The Human in the Machine: reflections on mentoring at the British Open University', in which Hawkridge's metaphor of 'the human in the machine' underscores the seemingly contradictory themes of mentoring and technology. The message here is that technology can make unique contributions towards improving effectiveness of mentorship without sacrificing its interpersonal dimension. In the end, we are left with the hope that, though the uncharted paths that new technologies may take us lead to uncertain destinations, the human element will always be our travelling companion.

Discussions in the current issue on telementoring (also known as e-mentoring, online mentoring, and cybermentoring) speak to the union between mentoring and technology and the promising role that telecomputing can play in fostering mentorship. This point is addressed in depth by Price and Chen in their work, 'Promises and Challenges: exploring a collaborative telementoring programme in a preservice teacher education programme', wherein *telementoring* is defined as 'a mentoring relationship or programme in which the primary form of contact between mentor and mentee is made through the use of telecommunication media ... or computer-mediated communications'. Examples of telementoring that the authors discuss in their article include electronic mail, discussion boards, and listservers.

By and large, the contributors view telementoring as a legitimate and effective form or expression of mentoring. They argue that telecommunications simply create the conditions that enable mentoring relationships to be established and maintained while providing a viable means for socialising adult populations. Online conferences that support threaded discussions (i.e. asynchronous or non-real time conversations over a network), for instance, may be created in a way that imbues them with an informal, casual quality for promoting the kind of personal interaction usually associated with the counselling aspects of mentoring. Hawkridge's report of telementoring at Open University provides a good example of this in its description of the electronic 'café' designed to socialise students during the initial weeks of an online course.

In terms of Hawkridge's 'human in the machine' concept of mentoring with technology, telecomputing is just one of many ways in which the different authors express the 'machine' side of the equation. Other types of technology reported herein include video teleconferencing and web-based communication. By the same token,

the contributing authors have also varied greatly in how the ‘human’ part of mentoring with technology is reflected in their writing.

To a large degree, these differences reflect the diverse cultural contexts of our authors. One author, for example, points out that the term ‘tutor’ is more appropriate for distance learning than ‘mentor’ but uses both terms interchangeably for the sake of cultural ease. In another article, ‘coaching’ rivals mentoring as a descriptive and apt term. Nevertheless, all authors use the terms ‘mentor’ and ‘mentoring’—terms that, despite minor differences in semantic colouring, generally portray an active relationship and helping process for promoting reflection, skills development, personal and professional development, and satisfaction with learning. Regarding mentoring outcomes, some authors have emphasised *empowerment* over *satisfaction* and *growth* over *skills*.

The heart of the matter in this issue, of course, is not technology *per se*; it is the experience of learning and the quality of educational relationships that take centre stage in the articles presented herein. Conceivably, the new forms of learning and partnership discussed in the following pages may suggest changes to the traditional ‘mentor’ and ‘learner’ scripts while, at the same time, unite innovative technological practice with effective approaches towards mentoring. This is an exciting possibility with the potential for invigorating education at all levels.

Finally, through their first-hand experiences with electronic media, the authors speak knowledgeably about the role of technology in facilitating mentoring outcomes. One example is the increased capacity for personalised attention and feedback on student projects that the scheduling flexibility of telecommunications affords. Yet another example is the access that technology can provide to multiple mentoring figures in one’s ‘career trajectory’—especially in cases where the protégé’s gender or ethnicity is underrepresented within a given profession. In such instances, Packard writes, a key outcome of mentoring must include ‘learn[ing] what it means to become a person in that profession’.

Systematising Mentoring

Packard, Boyer, Hawkrigde, and Kasprisin *et al.* all view electronic mentoring as a resource and activity that is capable of systematising the educational experience through structured activity over time. The value of a structured mentoring system for enabling the growth of constituencies, such as graduate students and new faculty, has been established in the literature (e.g. Mullen & Lick, 1999). This practice contrasts with assumptions and myths about the efficacy of ‘natural, spontaneous mentoring’ in educational settings (Boyle & Boice, 1998, p. 159). In this issue, electronic mechanisms that include ‘web assignments’, ‘chat rooms’, and ‘threaded conversation’ are discussed in relation to how they promote interaction, discourse, and socialisation.

Computer-based Learning

A perspective that the articles all share is the dominant role of computer-based models of instruction and research in technology, a view suggested by the very titles themselves. We can only speculate that this ubiquity of computer-based approaches to mentoring reflects a general bias in how Western society is currently adapting computer technology to the instructional milieu and how it is interpreting ‘technology’ itself.

Technology is, of course, much broader than computer-based communications and embraces such diverse areas as telephony, transportation, and audiovisual media, as well as components that do not fall under the rubric of ‘hardware’. Such components include processes, systems, techniques, and methods. Even so, the electronically delivered programmes that are examined in this issue, whether prototypical or more fully developed and tested, offer insight into cutting-edge innovations. Readers should find an array of helpful suggestions throughout for creating and improving their own technology-based and/or mentoring oriented programmes.

Adult Populations, Partnerships, and Diversity

All of the programmes and studies discussed in the articles that follow comprise groups of adult learners within educational, training, and industrial settings. These populations mainly represent preservice teachers, early career teachers, undergraduate engineering students, graduate students in educational leadership and school

library media, university students taking foundations courses, and multidisciplinary technology courses for adults. Where appropriate to teacher education, children have been included as a secondary population.

In this issue, some authors have examined mentoring and technology in ways pertaining to matters of diversity. Packard, for instance, addresses the case of women seeking careers in engineering and science where they are underrepresented as a population. Both this article and the one by Kasprisin and colleagues describe the use of electronic programmes and training modules tailored to meet the professional needs of female students.

Additionally, and perhaps more subtly, Packard shares ideas for designing web-sites that provide women with information about male-dominated careers while confronting stereotypes about female scientists. Electronic media, the article argues, are powerful tools with the capacity for changing deeply entrenched views about the role of professional women in society. Another article that touches on the topic of diversity proposes a novel use of technology: making the experience of teaching in low socioeconomic neighbourhoods available to white middle-class student teachers. As Phillion writes in 'Can technology offer a means of mentoring pre-service teachers about diversity?' Many preservice teachers are not within easy reach of urban schools with highly diverse populations. Exposure to these settings is advocated for helping future educators prepare for the challenges they will surely encounter.

Another line of thought followed in this issue is that of the substance and membership of electronic learning communities. Rather than being like desert islands on which clusters of students have been stranded, electronic communities can be dynamic learning environments composed of active, motivated, and invested partners. In this regard, it is interesting to note that Phillion's article associates the development of diversity awareness for preservice teachers with a *co-mentoring community*. Here, a reciprocal, synergistic, and non-hierarchical learning experience redefines the traditional classroom structure and its emphasis on power and status (Mullen & Lick, 1999).

In some experimental teacher education programmes around the world, preservice teachers are being supported through new course delivery methods that provide a 'virtual' field experience or practicum. In Phillion's study, two-way video conferencing technology presents an inventive solution to the problem of sustaining meaningful interaction at a distance among the many participants—preservice students, teacher educators, mentor teachers, and children—who constitute the mentoring milieu.

Electronically Adapting Traditional Mentorship

An important point made in this special issue is that the lessons learned from traditional or face-to-face mentoring contexts need to be applied to situations where the parties involved are at a distance. This stance is illustrated in the article by Kasprisin *et al.* titled, 'Building a Better Bridge: testing e-training to improve e-mentoring programmes in higher education'. Well-structured e-learning programmes, the article contends, should meet learner expectations by providing skills training, domain-specific knowledge, and high-quality coaching on a frequent basis.

Whether mentorship is conducted in person or primarily online, the two strategies share some commonalities that Sinclair discusses in 'Mentoring Online About Mentoring: possibilities and practice'. One notable example mentioned is that successful models of both are learner-focused and support a flexible approach to individual development. In 'Infusing Mentoring and Technology within Graduate Courses: reflections in practice', Witte and Wolf reflect this view by claiming that the instructor's capability and skill for individualising learning and facilitating success in a face-to-face situation must somehow be instilled in its technologically equivalent setting.

This is challenging work indeed! High-quality interaction in the educational relationship is considered indispensable in any instructional context, perhaps more so in the e-environment (Sorensen & Baylen, 2000). Furthermore, adult learners vary considerably in ability and motivation—including their willingness to experi-

ence change. As Witte and Wolf share, some students (and some faculty as well) believe that valuable learning and collaboration can *only* occur in person.

Needless to say, when online student collaboration opportunities are considered for higher education audiences, they must be carefully structured. Creative experiments, reported in this issue, on the use of technology to foster collaboration and interaction among students include Hawkridge's electronic café and Boyer's small learning communities that are facilitated by process leaders. Similarly, the distant mentors of tomorrow will not only need to pioneer original ways of defining and expressing the roles of 'mentor' and 'protégé', they will also need to devise imaginative ways to encourage peer collaboration (Mullen, 2002).

Just as there are similarities between e-mentoring and in-person mentoring, there are also stark differences. Based on our own experiences as distance educators, just the nature of student-teacher interaction alone changes dramatically when one steps from the classroom into the ethereal world of electronic collaborative networks, distance education programmes, and 'hybrid' (i.e. web-enhanced) courses. For instance, the immediacy of the Internet, e-mail, and e-chat yields heightened, often unrealistic, student expectations for rapid feedback any time, any place. Further, the electronic availability and 'presence' of the mentor outside the academic environment may invite a greater demand for counselling on matters unrelated to scholarship and professional development. Hence, one consequence of the infusion of technology in teaching is that our mentoring roles have become intensified and redefined.

The unexpected mentoring demand imposed by an online environment is exemplified in the reported experiences. In one such instance, a professor experienced the challenges and rewards of teaching a doctoral course online (Mullen, 2002). Almost immediately after this educational leadership course began, the instructor essentially became a 'doctor on call' available even on evenings, weekends, and holidays. Demands for instantaneous input on a range of issues including writing guidance on all drafts 'mushroomed' beyond the typical expectations for feedback. While students appreciated both the intensive feedback and freedom of web-enhanced course delivery, they nevertheless reported having missed the interpersonal dimension present in an actual classroom setting. Despite the professor's creative attempts at personalising the experience of learning, students still experienced a difference between the conventional and electronic form of course delivery in terms of the human dimension. On a formative course evaluation instrument, many in the class openly expressed a desire for more live interaction: face-to-face contact, classroom presentations, performances, and in-person dialogue with their professors.

Differences between face-to-face and distant delivery of mentoring represent an important area of education that warrants further study. As Kasprisin and co-authors state in this special issue, electronic communities can support the 'large-scale facilities' and number of participants that formal face-to-face mentoring programmes simply cannot accommodate. While differences between in-class and online instruction can unexpectedly emerge as one translates course content into the medium of cyberspace, such distinctions may serendipitously become opportunities for increased instructional effectiveness. A case in point, reported by Boyer, is the increased leadership activity shown by doctoral students who were placed in an online learning situation. Hypothetically, the line between leader and follower may potentially be blurrier in online arrangements than in traditional settings where roles are more easily and visibly defined.

Paloff and Pratt (2001) also speak to the reversal of classroom roles and responsibilities in e-learning, advising instructors to relinquish control of the online environment so that students can take the lead in the educational enterprise. Even so, they warn that this philosophy should not be adopted as a rationale for abandoning students online; rather it should be used to facilitate academic development and the growth of the mentoring community. Boyer concurs that mentors have vital leadership functions to fulfil, particularly when the online environment consists of a multinational audience with differing native languages, customs, and degrees of self-efficacy. Indeed, mentorship is viewed here as a means for leaders (mentor teachers) to support developing leaders (doctoral students) as essential for building the learning environment.

To accomplish these new and ambitious aims, however, academic mentors need assistance in making the transition from the expected norms of classroom learning to cyberspace learning. Faculty engaged in the online enterprise also need to learn how to scaffold social learning experiences in a way that, as Boyer states, ‘enhances engagement through increased relationships and guiding experience’. The pedagogical goal for electronic mentors requires that they find productive ways of bridging the worlds of the academic and the practical.

While online learners benefit enormously from a seasoned guide who can help them to navigate the unknown territory of an e-course, Sinclair warns against falling into a pattern of slavishly following the mentor’s actions and ideas. Witte and Wolf, as well as Sinclair, recognise that peer learning and student empowerment as well as independence, engagement, and critical thinking are indispensable democratic processes that can be more readily fostered through technology communications and within e-learning environments than traditional contexts.

To Hawkrige, distant mentorship has the same potential for empowering students as the in-person variety as long as mentors strive to create curriculum and discourse patterns that foster this democratic goal. An electronic environment thus grounded in authentic practice and personal responsibility will require that the mentor take the initial lead in building productive discourse patterns and weaving together valuable ideas—but then handing over the ‘reins’ to their protégés while providing assistance as needed. This is, after all, what effective face-to-face mentoring has probably always done. In this sense, one would expect no less from successful online mentorship.

Mentoring Metaphors of Technology

A model presented more than once in this issue is that of a comentoring community expressed through a telementoring initiative. In this arrangement, participating students are encouraged to teach and learn from one another, as reciprocal mentoring contributes to their professional growth. For Boyer, the emphasis is on mentoring leaders as a process involving ‘mutual development, critiquing, and clarifying of ideas’. This notion of mentoring roughly parallels the concept of synchronic (i.e. real-time) tutoring within a virtual community where ‘learning means becoming a member of a certain community or culture’ in contrast with the ‘transmission metaphor’ ‘where knowledge is transferred from one person to another...’ (Ligorio *et al.*, 2002, p. 137). In the case of mentoring reciprocity, the mentor’s role shifts from being the sole possessor and distributor of knowledge to one who not only constructs the setting in which mentorship can emerge, but also becomes a learner in the process.

In all of the mentoring portraits presented, the ‘participation metaphor’ and the ‘transmission metaphor’ each have a vital role to play, albeit to varying degrees, in this new and changing world of techno-mentorship. Either perspective, by itself, would lead to an incomplete and insufficient formula for mentoring. Given a ‘pure’ adoption of the participation metaphor, the mentor would disappear entirely or perhaps become subsumed by a learning community struggling to understand its focus and direction. The contrasting metaphor, that of mentor-as-transmitter, is equally unsuitable—the mentor would command all aspects of the educational process from centre-stage much like the way a music conductor controls the performance of an entire orchestra.

The Commitment to Mentoring Online

A shared view of the contributing authors is that mentorship is not a passing trend or fad but rather a permanent fixture of pedagogy and instruction, regardless of the form of delivery it takes. For example, Witte and Wolf recognise the great commitment required of both the instructor and learner in fully subscribing to a mentoring role. Like the other authors in this special issue, they stress the importance of undertaking such a commitment only when the requisite support is present.

For e-mentoring to succeed, the requisite technical support is crucial given the reliance on technology for communicating at a distance. Apart from the obvious need for networking hardware and the personnel to maintain it, support for online mentoring initiatives may take several forms: readily available expert technical

help, graduate teaching assistance, release time from teaching duties, 'off-the-shelf' programmes for delivery and assessment of instruction, and an efficient administrative structure are but a few examples.

Invitation

This issue is intended as a resource for policymakers, educational and community leaders, educators, students, and citizens. Our highest hope is that the issue will stimulate discourse about the quality and effect of technology on mentoring in a rich variety of contexts and cultures.

Acknowledgements

The works appearing in this special issue are the result of thoughtful and critical reviews from mentoring and technology specialists in combination with the close editorial attention of William Kealy and Carol Mullen. All authors received detailed, specific suggestions for revisions and refinement, which they used in their final works.

We, the guest editors, thank Professor David Reid, editor of the *Mentoring & Tutoring* journal for endorsing our prospectus through a refereed process and especially for his sustained belief in this project. We are also grateful to Ian White, Managing Editor, of Taylor & Francis Limited who took particular care to answer our daily questions. With fondness, we recall our trip to the United Kingdom in August 2001 and an afternoon tea spent in Dr Reid's comely English garden as we planned this special issue with the editor and publisher.

For this issue, many articles were submitted and reviewed by academics from the United States, Canada, and the United Kingdom whose generous professional service enabled this issue to materialise. We thank the reviewers for the gift of their time and mindfulness; their names and institutions are published in this issue.

Finally, we wish to thank the authors who have produced what we consider to be significant works on topics of contemporary interest that are relevant to the educational community and elsewhere. In each of these works, gems can be found.

References

- BOWERS, C. A. (1998) Toward a balanced perspective on the educational uses of computers: advantages, myths, and the responsibilities of educators, *International Journal of Leadership in Education*, 1(1), pp. 75–83.
- BOYLE, P. & BOICE, B. (1998) Systematic mentoring for new faculty teachers and graduate teaching assistants, *Innovative Higher Education*, 22(3), 157–179.
- LIGORIO, M.B., TALAMO, A. & SIMONS, R.-J. (2002) Synchronic tutoring of a virtual community, *Mentoring & Tutoring: Partnership in Learning*, 10(2), pp. 137–152.
- MULLEN, C.A. (2002) Web-enhanced instruction: a mixed bag of contradictions and possibilities for doctoral education, *Journal of Academic Leadership*, 2(2), pp. 1–37 [online]. Available at <http://www.academicleadership.org>
- MULLEN, C.A. & LICK, D.W. (Eds) (1999) *New Directions in Mentoring: creating a culture of synergy* (London, England, Falmer Press).
- PALLOFF, R.M. & PRATT, K. (2001) *Lessons from the Cyberspace Classroom: the realities of online teaching* (San Francisco, CA, Jossey-Bass).
- SORENSEN, C. & BAYLEN, D. (2000) Perception versus reality: views of interaction in distance education, *The Quarterly Review of Distance Education*, 1(1), pp. 45–58.