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E-mentoring: an extended practice, an emerging discipline

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Handbook of Research on Computer Mediated Communication

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Chapter XLVII

E–Mentoring: An Extended Practice, an Emerging Discipline

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ABSTRACT

This chapter integrates existing literature and developments on electronic mentoring to build a constructive view of this modality of mentoring as a qualitatively different concept from its traditional face-to-face version. The concept of e-mentoring is introduced by looking first into the evasive notion of mentoring. Next, some salient e-mentoring experiences are identified. The chapter goes on to note the differences between electronic and face-to-face mentoring, and how the relationship between mentor and mentee is modified by technology in unique and definitive ways. Readers are also presented with a collection of best practices on design, implementation, and evaluation of e-mentoring programs. Finally, some practice and research trends are proposed. In conclusion, the author draws an elemental distinction between both modalities of mentoring, which defines e-mentoring as more than the defective alternative to face-to-face contact.

INTRODUCTION

The technology revolution has changed the way we live in our world, including what we understand about mentoring and how it happens. Information and communication technologies (ICTs) have been made central given their potential for democratization of the access to knowledge, their incorporation to professional competences, and the improvement

of learning possibilities (Gisbert, 2004). During the last two decades, ICTs have offered new and exciting opportunities for transcending the physical and psychological distance between people. Accounts of the potential of ICT for mentoring relationships started appearing in the literature in the late 1980s and early 1990s (Moore, 1991), and have extended to become a phenomenon emerging on a world wide scale. The first online

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version of the original contribution to UNESCO's World Communication and Information Report (Blurton, 1999) notes the potential of ICT to enable mentoring programs to provide guidance to individuals by well-established members of a particular community. Blurton (1999) notes that "such virtual collaborations between individuals are an effective way for senior member of a community to teach, inspire and support newcomers" (p.12).

A simple Web search using the terms "electronic mentoring," "e-mentoring," "online mentoring," or "telementoring" identifies a large number of programs initiated by educational institutions, corporations, and communities around the globe, in which support to individuals is facilitated by the use of ICT. This chapter presents to the reader the developments of the last decade in computer mediated mentoring, starting first with a consideration of the general concept of mentoring.

BACKGROUND

A Multifaceted and Elusive Concept

The term "mentoring" was coined based on Homer's *Odyssey*, where the young Telemachus was assigned Mentor as his companion and advisor during the long absence of his father. Since the late 1970s, the term was adopted to promote the value of institution or organization-based relationships to an individual's personal and professional development. Much emphasis is placed on empathy and trust (Eby, 1997); and most authors agree on the idea that the benefits of mentoring tend to emerge only over a relatively long period of time (Rhodes, 2002). Mentoring is a growing practice that has been extensively documented in Anglo-Saxon literature as a means to facilitate transitional adjustment and personal or professional development (Allen, McManus, & Russell, 1999; Eby, 1997; Gray & Gray, 1990; Kram, 1985; McMahan, Limerick, & Gillies, 2002; Smith &

Ingersoll, 2004). Miller (2004) refers to "transition mentoring" to describe those programs that target individuals during times of transition at any moment in life, for example, educational and career transitions. In transition mentoring, a paired relationship is established between a more senior individual or mentor and a lesser experienced individual or mentee, in order to develop competences and orientations towards survival that the newcomer might otherwise only have acquired slowly and with at least some difficulty.

Literature also suggests that effective mentoring relationships should be trust based and power free (P. B. Single & R. M. Single, 2005a). This is often referred to as "the value of impartiality," the benefit associated with being mentored by someone who has no a vested interest in your choices or ulterior motives for mentoring. Basically it is useful to find a mentor who doesn't have an interest in your performance, and with whom the newcomer can share common experiences. Peer to peer relationships offer useful orientations to a mentoring system, involving a degree of social responsibility to the community in ways that attempt to confront and reverse an ever-increasing individualistic, competitive approach to career, education, and life development (Allen et al., 1999; McLean, 2004; O'Regan, 2006). In addition to these benefits, peer mentors may be in a better position to share information, offer credible advice, listen to the mentees' concerns, and serve as a role model than traditional mentors. Allen et al. (1999) demonstrated the effectiveness of psychosocial and career-related peer mentoring showing that there are different dimensions of socialization of newcomers that peers can facilitate (politics, performance, and establishment of relationships with organizational members). The authors underscore the valuable role that more experienced peers can serve in enhancing socialization (in abstract). Arguably, peer mentors may have training and support needs that program organizers must take careful consideration of.

However, what is understood for “mentoring” and its manifestations is very diverse. The idea of a strongly interpersonal relationship which provides a “safe place” for the newcomer to address his or her development needs associates mentoring to the area of counseling, although there are important distinctions between the two (Stokes, Garrett-Harris, & Hunt, 2003). Mentoring is also often confused and mixed with other concepts, like tutoring, coaching, and advising. It is difficult to draw a distinction between these and the term used very much depends on local and national contexts and traditions. O’Neill and Harris (2005) draw a pretty clear distinction between “tutoring” and “mentoring” as follows:

Tutoring is often confused with mentoring because it involves an ongoing relationship between a student [and by extension a new employee] and a more knowledgeable person, but there are important differences. (...) In tutoring, the objective is that the student [employee] masters a well-defined domain. The expert assigns the student [employee] a problem (...), then evaluates the student’s [employee’s] performance (...) Throughout, the tutor is typically in control of which problems the student [employee’s] addresses. Mentoring is quite different in that interactions usually evolve around problems that the junior party brings to the table. (p.113)

There can be components of mentoring in tutoring, and of tutoring in mentoring, but the primary goals of the two programs are different. Most definitions distinguish mentoring from a situation where the mentor provides solutions to the mentee, and emphasize instead the reciprocal, complex, and multilayered nature of the relationship. To condense this elusive concept, it is useful to remind the reader on what mentoring is and is not, as summarized in Table 1.

A European Perspective

The popularity of mentoring, long accepted in Anglo-Saxon academic and organizational environments, is strongly rising in the European context as a means for guidance, support, and socialization. A recent resolution by the European Council, aimed to establish the policies and practices in the field of guidance through life, includes mentoring in the main definition of “guidance” (EC, 2004b, p. 2). The document stresses that the role of guidance and mentoring is to provide significant support to individuals during their transition between levels and sectors of education, training systems, and working life (2004b, p. 3). The document also strongly recommends that the beneficiaries of guidance should be at the centre of the process both in terms of design and delivery. O’Regan (2006) highlights mentoring is receiving a higher profile than ever

Table 1. What is mentoring?

Mentoring is...	Mentoring is not...
An enhancement of other forms of social, emotional, psychological, and intellectual support	An isolated solution to problems
A dynamic process that engages both mentee and mentor in the process of self-learning, action, and reflection	Something that is done TO an individual
Transformational, organic, complex, multi-dimensional, and somewhat unpredictable. Requires mutual engagement	Passive or mechanistic

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before. The author quotes Gränzer's presentation at ENCYMO (the Mentoring in Europe Conference which took place in Liverpool in 2005) on the discussions currently taking in the European Commission relating to the growth and expansion of mentoring as a key element to the support of individuals across multiple contexts.

The UK has a significant lead on other European countries, with several millions of pounds invested from governmental funding to the National Mentoring Network through the Aimhigher program.

ISSUES, CONTROVERSIES, AND PROBLEMS

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Time and space constraints often create an obstacle that prohibits mentors and mentees meeting as frequently as they should (if at all), an outcome that has undermined traditional face-to-face mentoring relationships more than any other factor, according to Noe (1998). As a result, organizations and institutions across the globe have embraced the access opportunity that computer mediated communication promises for mentoring. E-mentoring is defined by Single and Muller (1999) as a naturally occurring or paired relationship primarily using electronic communication that is established between a more senior individual ("mentor") and a lesser experienced individual ("protégé" or "mentee"), intended to develop and grow the skills, knowledge, confidence, and cultural understanding of mentee to help the mentee to succeed. P. B. Single and R. M. Single (2005b, p. 10) elaborate further on the definition to structured e-mentoring programs, informed by the work of the face-to-face structured mentoring field:

...occurs within a formalized program environment, which provides training and coaching to

increase the likelihood of engagement in the e-mentoring process, and relies on program evaluation to identify improvements for future programs and to determine the impact on the participants. (p.10)

Ensher, Heun, and Blanchard (2003) categorize e-mentoring according to the amount of electronic communication that takes place within the relationship. At one end of the continuum there are full e-mentoring relationships (computer based communication only). At the other extreme are face to face mentoring with ICT support, and somewhere in the middle blended mentoring takes place as a combination of face-to-face and online mentoring. Hamilton and Scandura (2003) specify further and state that, to be called e-mentoring, 75% or more of the mentorship must take place through electronic means.

A review of the literature focusing on support approaches in electronic collaborative learning environments results in a variety of concepts (e.g., e-tutoring, online mentoring, e-coaching, e-moderating) being used to address the roles, tasks, and responsibilities of online facilitators (De Smet, Van Keer, & Valcke, forthcoming). Much of the above discussion on the differences between mentoring and tutoring would apply to their electronic versions, and a case can be made that what is termed "e-mentoring" is often difficult to distinguish from e-moderating, e-coaching, or e-counseling. Moreover, the technical and interpersonal competences required from e-mentors overlap with those of e-moderators and e-tutors, and much of the literature dealing with best training practices in e-mentoring emanate from best practices and research findings in other areas related to computer mediated communication (CMC) (Kasprisin, Single, Single, & Muller, 2003; O'Neill & Harris, 2000).

E-mentoring systems have been introduced in many contexts with a wide variety of purposes: facilitating expatriate or newcomers' adjustment (Beitler & Frady, 2001; Dewart, Drees, Hixen-

baugh, & Williams, 2004), career development (Tesone & Gibson, 2001; Wadia-Fascetti & Leventman, 2000), support to entrepreneurs and SMEs (Perren, 2003; Stokes, 2001), curriculum-based learning (O'Neill & Harris, 2000), and higher participation in academia by minority groups (Headlam-Wells, Gosland, & Craig, 2005; McMahon et al., 2002; Single & Muller, 2001). In Tables 2-11, MentorNet, an outstanding example of e-mentoring, is presented.

MentorNet: A Great Success of E-Mentoring

By 2003, *MentorNet* had served more than 2,800 mentees. Nowadays, the organization has around 20,000 members and has coordinated more than 9,000 e-mentoring relationships. Importantly, the evaluation of results of nearly 10 years of experience are greatly helping to canvass the potential and challenges of e-mentoring (Single & Muller, 2000; Single, Muller, Cunningham, & Single, 2000; Single & Single, 2005a, 2005b). Many other e-mentoring projects have been inspired on the work by *MentorNet* with the common objective of enhancing female presence on target areas and professions, for example, the EU funded initia-

tive Empathy-Edge in the UK (Headlam-Wells et al., 2005).

A Qualitatively Different Experience

E-mentoring programs do have some fundamental similarities with their face-to-face counterparts. The starting point is essentially the same: a one to one liaison between two individuals based on a mutual commitment towards developing the skills of the less experienced of them towards some broad organizational or institutional objective (Conway, 1998). In order to function effectively, both electronic and face-to-face systems must be planned, implemented, and monitored properly with a coordination system that supports, but is somewhat independent of the participants. Both are also affected by wider organizational and personal factors including culture and norms, management support, and degree of top-level commitment to the success and longevity of the program.

However, e-mentoring and face-to-face mentoring are also different in many ways. A literature review of the opportunities and challenges of computer mediated mentoring as opposed to it traditional face-to-face version has highlighted

Figure 1. Homepage of MentorNet (www.mentor.net)

The screenshot shows the MentorNet homepage. At the top, the logo reads "MentorNet" with the tagline "The E-Mentoring Network for Diversity in Engineering and Science". Below the logo is a navigation bar with links: "MentorNet Community", "One-on-One Mentoring", "E-Forum", "Resources", "Resume Database", "Sign In", and "Join". A secondary navigation bar includes "MentorNet Partners", "Corporations", "Colleges & Universities", "Government Agencies", "Professional Societies", and "About MentorNet".

The main content area is divided into several sections:

- Announcements:** A text block starting with "Suffering with 'Overwhelm' - addressing time management issues at their roots; Experiencing the male culture of science, Jen Gibbons shares her story; Read the March edition of [MentorNet News](#)." Below this is a link: "Become a [Campus Partner](#)."
- Quote:** "Mentoring in today's environment is a critical tool in the toolbox for success. The inherent lack of link between business and academics presents an awesome chasm for many, especially women, to face and bridge. Mentoring provides an outstanding opportunity to assist students in this endeavor." - [MentorNet Mentor](#)
- Text:** "MentorNet is the award-winning nonprofit e-mentoring network that positively affects the retention and success of those in engineering, science and mathematics, particularly but not exclusively women and others underrepresented in these fields. Founded in 1997, MentorNet provides highly motivated protégés from many of the world's top colleges and universities with positive, one-on-one, email-based mentoring relationships with mentors from industry, government, and higher education. In addition, the MentorNet Community provides opportunities to connect with others from around the world who are interested in diversifying engineering and science. Read more [About MentorNet](#)."
- Call to Action:** "Be a Mentor Get a Mentor" with a "SIGN ME UP!" button and "NEED MORE INFORMATION?" link.
- Sign In Form:** A form with fields for "UserName:" and "Password:" and a "Sign In" button.
- What Does MentorNet Offer?:** A section titled "The [MentorNet Community](#), where members can take advantage of:" followed by a bulleted list:
 - MentorNet's award-winning [One-on-One E-Mentoring Program](#), pairing community college, undergraduate and graduate students, postdoctoral scholars, and untenured faculty with experienced professionals in their fields for email-based mentoring relationships.
 - The MentorNet [E-Forum](#), web-based discussion groups for anyone interested in topics such as Work/Life Balance, Job Searching, and Graduate School.
 - [Resources](#) for and about mentoring, diversity, and careers in engineering and science.
 - A [Resume Database](#) for students seeking jobs or internships.

E-Mentoring

Figure 2. MentorNet e-Forum discussion groups

Post Refresh Search Mark Read More Help Logoff

MentorNet E-Forum

All Messages | [New](#)

Welcome to MentorNet E-Forum

Discussion Groups

- ✚ [Licensure & Professional Development \(NSPE sup](#)
- ✚ [Career Options in Biology](#) (17)
- ✚ [Diversity Issues](#) (7)
- ✚ [For Mentors](#) (45)
- ✚ [For Proteges](#) (41)
- ✚ [Graduate School: Options, Issues and Strategies](#) (
- ☐ [Job Search](#) (49)
 - [jobs in computer engineering](#) 8/23/2002
 - ✚ [Welcome](#) 8/23/2002 (5)
 - ✚ [Computer Engineering Jobs](#) 9/1/2002 (5)
 - ✚ [Job \(Soul\) Searching](#) 10/14/2002 (10)
 - ✚ [Internship](#) 11/6/2002 (3)
 - [Biometrics](#) 11/14/2002
 - [Faculty Tenure Track](#) 11/19/2002
 - ✚ [Any entry-level positions?](#) 12/13/2002 (3)
 - [Any internship in telecommunications?](#) 8/23/2002
 - ✚ [Dress Codes](#) 1/14/2003 (9)
 - ✚ [Out of state internship search](#) 1/15/2003 (2)
 - [summer intern](#) 3/8/2003

TOP | [Post](#) | [Reply](#) | [Reply/Quote](#) | [Email Reply](#) | [Delete](#) | [Edit](#)
[Previous](#) | [Next](#) | [Previous Topic](#) | [Next Topic](#) | [Entire Topic](#)

Topic: Any entry-level positions? (1 of 3), Read
Disc. Group: [Job Search](#)
From: [Deborah Lutvak](#)
Date: Friday, December 13, 2002 05:24 PM

Hi,

I am graduating next week with a B.S. in Comp too. I have been searching day and night on th all I get are automated responses that they ha

Does anyone know what companies are hiring & any other ideas of how to look for a job and fir I'm not one of those fortunate people who hav industry that could help them? But, how could job related to computers.

If anyone has any suggestions, I would apprec

Deborah Lutvak

TOP | [Post](#) | [Reply](#) | [Reply/Quote](#) | [Email Reply](#) | [Delete](#) | [Edit](#)
[Previous](#) | [Next](#) | [Previous Topic](#) | [Next Topic](#) | [Entire Topic](#)

Topic: Any entry-level positions? (2 of 3), Read
Disc. Group: [Job Search](#)
From: [Deborah Lutvak](#)

Figure 3. Mentor profile (to be filled before participating in one-to-one mentoring)

Mentor Profile Personal Info School / Career Options

Mentor Profile: Industry E-Mentoring Program [\[Edit\]](#)

Profile Status [\[Edit\]](#)

Active Hidden
 (Matched - And available for another protege)

Personal Info [\[Edit\]](#)

Location: Fremont, CA
 Gender: F
 Age: 31 - 40
 Race/Ethnicity: White
 Citizenship: United States

Background/Experience [\[Edit\]](#)

Fields: **Biological Sciences**
 Explanation:

Careers: **Community/Public Service, Entrepreneurship**
 Explanation:

Educational Info [\[Edit\]](#)

Alma Maters: University of California, Berkeley, UC San Francisco
 Completed Degrees: High School, Bachelors, Ph.D.

Employment Info [\[Edit\]](#)

Your Match Preferences: [\[Edit\]](#)

Gender of Protégé:
 Rating: 3 - Absolute Requirement
 Preferences: F

Education Level of Protégé:
 Rating: 0 - No Preference
 Preferences:

College or University of Protégé:
 Rating: 0 - No Preference
 Preferences:

Ethnicity of Protégé:
 Rating: 0 - No Preference
 Preferences:

Citizenship of Protégé:
 Rating: 0 - No Preference
 Preferences:

Topic Ratings [\[Edit\]](#)

Gen. Support: ●●●●●
 Sch. Decisions: ●●●●○
 Industry Info.: ●●○○○

Table 2. Contact. Differences between face-to-face and e-mentoring (a literature review)

FACE-TO-FACE	ELECTRONIC
<ul style="list-style-type: none"> • Rigid, dependent on space and time 	<ul style="list-style-type: none"> • Flexible, independent of space and time

Table 3. Timing. Differences between face-to-face and e-mentoring (a literature review)

FACE-TO-FACE	ELECTRONIC
<ul style="list-style-type: none"> • Immediate. Pressure on immediately responding • 	<ul style="list-style-type: none"> • Asynchronous tools (discussion forums, e-mail): Delayed, without the pressure of immediately responding. It may be not a timely process if responses are not quick • Asynchronous tools (chat): Pressure on immediate response

Table 4. Implications of the communication channel. Differences between face-to-face and e-mentoring

FACE-TO-FACE	ELECTRONIC
<ul style="list-style-type: none"> • Rich on nonverbal cues, wealth of emotional information • Participants can learn from the other person's immediate reactions • For some individuals, face-to-face interaction is seen as warmer and richer. Others find it difficult and exposed • Misunderstandings can be clarified as they appear if participants have the required social skills • First impressions may play a greater role 	<ul style="list-style-type: none"> • Nonverbal cues are missing; alternative expression of emotions is required • Not needing to take account of another person's immediate reactions ("self-absorption") may facilitate self-awareness and provision of honest feedback • For some individuals, the communication style can be safer and less intimidating. Others perceive it as a cold medium • Miscommunication may happen. In extreme cases, CMC can turn hostile as inhibitions are lowered • Less information is exchanged so relationships develop slowly, but it allows for greater privacy • Hyper-relationships may happen (participants form a better opinion of the other than they would if they were physically interacting)

Table 5. Skills required. Differences between face-to-face and e-mentoring (a literature review)

FACE-TO-FACE	ELECTRONIC
<ul style="list-style-type: none"> • Conventional social skills are required 	<ul style="list-style-type: none"> • Social skills, computer literacy, good written communication, and netiquette are required • More frequent and explicit purpose-setting, progress-reporting, and problem-solving communications may be necessary

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Table 6. Role of social differences. Differences between face-to-face and e-mentoring (a literature review)

FACE-TO-FACE	ELECTRONIC
<ul style="list-style-type: none">• Status differences play a greater role	<ul style="list-style-type: none">• Status differences are attenuated

Table 7. Pairing and scalability. Differences between face-to-face and e-mentoring (a literature review)

FACE-TO-FACE	ELECTRONIC
<ul style="list-style-type: none">• Space/time restrictions may impose limitations on the pairing of mentors, taking precedence over expertise• Physical proximity and personal schedules may pose high barriers to entry	<ul style="list-style-type: none">• Space/time flexibility is likely to provide greater choice in the pairing of mentors and protégés and extend opportunities to participate• The ease with which virtual relationships can be started and ended can weaken commitment. Also, the nature of the communication can promote minimal contact between participants, shorter programs, inadequate planning, mentor training, and follow-up• Mentors often find it difficult to find out about their mentees' needs and frustrations, and are reliant on their mentees to express them

Table 8. Records of the interaction. Differences between face-to-face and e-mentoring (a literature review)

FACE-TO-FACE	ELECTRONIC
<ul style="list-style-type: none">• There is usually no record. Information is collected sometimes using questionnaires or rubrics and is retrospective	<ul style="list-style-type: none">• The interaction can be recorded automatically and just in time. Mentors and protégés tend to find these records helpful

Table 9. Monitoring and evaluation. Differences between face-to-face and e-mentoring (a literature review)

FACE-TO-FACE	ELECTRONIC
<ul style="list-style-type: none">• Use of secondary sources (participants' reports and coordinator's notes)	<ul style="list-style-type: none">• Primary source of information (electronic records) allow for content analysis, analysis of participation patterns, lurking, and so forth

Table 10. Ethical implications. Differences between face-to-face and e-mentoring (a literature review)

FACE-TO-FACE	ELECTRONIC
<ul style="list-style-type: none"> The relationship is usually confidential although ethical issues must be dealt with (like participants' selection) 	<ul style="list-style-type: none"> Electronic records may involve additional confidentiality and ethical issues, which may also impact the communication

Table 11. Cost and access. Differences between face-to-face and e-mentoring (a literature review)

FACE-TO-FACE	ELECTRONIC
<ul style="list-style-type: none"> Depending on geographic and time circumstances, it can be a cost effective solution or a cost intensive one There may be other associated costs, like activities during meetings 	<ul style="list-style-type: none"> Depending on participants' having easy access to computers and Internet, e-mentoring is a cost effective option or it may appear a digital divide (lesser e-mentoring opportunities for those who can not access the technology)

differences (Bierema & Merriam, 2002; Ensher et al., 2003; Harrington, 1999; McCormick & Leonard, 1996; O'Neill & Harris, 2000, 2005; O'Neill, Harris, Cravens, & Neils, 2002; Single & Muller, 1999) summarized in Tables 12-17, according to each issue considered.

Of course, both varieties of mentoring are not necessarily mutually exclusive, and they can complement each other if the circumstances make a blended approach possible. However, the issues raised above indicate that both types of mentoring represent quite different ways of striving for a common goal. Bierema and Merriam (2002) share the view that e-mentoring is "qualitatively different than traditional face-to-face mentoring" and that "the virtual medium provides a context and exchange that may not be possible to replicate in face-to-face mentoring relationships" (2002, p. 219). Therefore, in Harris' words (O'Neill et al., 2002), the important question is not whether e-mentoring is better or worse than face-to-face mentoring, but rather what e-mentoring can bring "for long in-depth, productive, mutually beneficial interactions when the same can't happen face-to-face." P. B. Single and R. M. Single (2005b, p. 14) elaborate in this direction and note that the primary benefit of e-mentoring is in the

value of connections between organizations. For them, e-mentoring facilitates the "strength of weak ties," since electronic communications span render geographical distances irrelevant and provide mentoring opportunities to wider and more diverse groups of people.

Given the potential drawbacks that e-mentoring may involve as noted in the tables above, some authors (O'Neill et al., 2002) argue that deeply personal, long term relationships are likely not to work so well online. However, there are also equally important forms of mentoring that can provide people guidance and advice as they enter into and move through unfamiliar organizations, communities and stages in life. E-mentoring is likely to find its niche among these modalities of mentoring, focused on more shorter-term and professional or academic objectives.

BEST PRACTICE

Coming from this view of e-mentoring as a discipline and practice "in its own right," a 306 degree review of effective practice along the life span of a mentoring program is presented next. This review combines suggestions for best

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Table 12. *Statement of purpose and long-range plan. Best practice on e-mentoring DESIGN (a literature review)*

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> State what ultimate purpose the program is design for: career development, academic support, socialization, and so forth. 	MENTOR, 2001
<ul style="list-style-type: none"> Who, what, where, when, why, and how activities will be performed 	
<ul style="list-style-type: none"> Realistic, attainable, and measurable goals, objectives, and timelines 	
<ul style="list-style-type: none"> Decide on a typology of mentoring (senior to junior or peer to peer, individual or group based, etc.) 	Miller, 2002
<ul style="list-style-type: none"> Carry out a pilot in small scale and introduce change gradually 	Ross, 2004

Table 13. *Relevant populations and stakeholders. Best practice on e-mentoring DESIGN (a literature review)*

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> Assessment of potential mentee's needs and pool of mentors 	MENTOR, 2001
<ul style="list-style-type: none"> Adherence to general principles of volunteerism 	

Table 14. *Contextualization. Best practice on e-mentoring DESIGN (a literature review)*

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> Research local and national e-mentoring schemes 	Ross, 2004
<ul style="list-style-type: none"> Assessment of organizations' readiness, capacity, and will to create and sustain a high-quality e-mentoring programs, collecting input from originators, staff, potential volunteers, and potential mentees 	MENTOR, 2001
<ul style="list-style-type: none"> Build upon the knowledge obtained in face-to-face mentoring experiences in the institution/organization 	O'Neill, et al. (2002)
<ul style="list-style-type: none"> Sustain involvement of staff with funded time, meaning it is a designated time within their day (instead of something extra in addition to their regular duties) 	
<ul style="list-style-type: none"> Build relationships carefully with all stakeholders 	Ross, 2004
<ul style="list-style-type: none"> Adjust to the institution/organization's periods of intensive work, holidays, and so forth 	

Table 15. *Technology strategy. Best practice on e-mentoring DESIGN (a literature review)*

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> • Carry out a through IT audit of all involved 	Ross, 2004
<ul style="list-style-type: none"> • Choose a communication system: <ol style="list-style-type: none"> a. appropriate to goals of the program b. relevant to participants' context c. safe and reliable d. affordable 	MENTOR, 2001
<ul style="list-style-type: none"> • Policies regarding privacy and security of program participants' data and communication 	
<ul style="list-style-type: none"> • Method for archiving e-mails to meet safety and evaluation needs 	

Table 16. *Promotion and marketing policy. Best practice on e-mentoring DESIGN (a literature review)*

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> • Year-round marketing and public relations 	MENTOR, 2001
<ul style="list-style-type: none"> • Prepare and distribute an information pack for teachers 	Ross, 2004

Table 17. *Safety measures. Best practice on e-mentoring DESIGN (a literature review)*

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> • Establishment of a code of online conduct guided by common sense, basic netiquette, and mutual respect 	
<ul style="list-style-type: none"> • Adherence to rules and laws that apply in face-to-face mentoring, as well as those unique to online mentoring, for example, confidentiality of program participants' personal information 	MENTOR, 2001
<ul style="list-style-type: none"> • Comprehensive background checks and screening of mentors 	
<ul style="list-style-type: none"> • Process for raising and addressing concerns 	
<ul style="list-style-type: none"> • Exit clause 	

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Table 18. Recruitment plan. Best practice in e-mentoring program IMPLEMENTATION (a literature review)

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> Strategies that reflect accurate expectations and benefits 	MENTOR, 2001
<ul style="list-style-type: none"> Targeted outreach based on mentees' needs and interests 	
<ul style="list-style-type: none"> Volunteer opportunities beyond mentoring 	
<ul style="list-style-type: none"> Basis in your program's statement of purpose and long-range plan 	
<ul style="list-style-type: none"> Recruit early, before participants are caught up in their daily activities 	Single & Muller, 2005
<ul style="list-style-type: none"> Design different "call for participants" and application forms for mentors and mentees 	
<ul style="list-style-type: none"> As well as electronic communication, use alternative recruitment mediums like newsletters, heads of department, student/staff representatives, and so forth. 	
<ul style="list-style-type: none"> Manage expectations carefully before training: program goals, eligibility criteria, frequency of expected contact, and so forth. 	

Table 19. Eligibility screening. Best practice in e-mentoring program IMPLEMENTATION (a literature review)

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> Reference checks for mentors, especially if working with underage mentees 	MENTOR, 2001
<ul style="list-style-type: none"> Suitability criteria that satisfy the program statement of purpose and needs of the target population (could include personality profile, skills identification, gender, age, geography, language, race, career interests, level of education, previous volunteer experience, and so forth) 	

Table 20. Induction and orientation. Best practice in e-mentoring program IMPLEMENTATION (a literature review)

RECOMMENDATIONS	AUTHOR(S)	
<ul style="list-style-type: none"> Successful completion of training and orientation 	MENTOR, 2001	
<ul style="list-style-type: none"> Separate orientation for mentors and mentees 		
Include: <ol style="list-style-type: none"> Reinforce expectations: jobs/roles descriptions, restrictions (accountability) Description of technology used and access needed Level of commitment expected (time, energy, flexibility, frequency) Benefits and rewards of participation Summary of program policies, including those governing privacy, reporting, communications, and evaluation Safety and security, especially around use of the Internet Cultural/heritage sensitivity and appreciation training Do's and Don'ts of managing the relationships Crisis management/problem-solving resources Support materials and ongoing sessions as necessary Suggestions on how to get started 		
<ul style="list-style-type: none"> Decide on a method for delivery: face-to-face, online, or blended. If choosing online, options are: <ul style="list-style-type: none"> Moderated discussion groups Web-based threaded discussion lists Web-based training tutorial based on case studies, sample responses, simulation, and so forth. 		Single & Muller (2005)

Table 21. Coaching. Best practice in e-mentoring program IMPLEMENTATION (a literature review)

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> • Guide the e-mentoring pairs along the relationship, starting with initiation and moving through cultivation, separation, and redefinition (Kram, 1985) • Coach in a networked environment, using messages containing discussion suggestions, mentoring tips, and so forth. • Keep coaching messages short and frequent (weekly or every other week) • Conclude coaching messages by soliciting feedback from the participants 	Single & Muller (2005)
<ul style="list-style-type: none"> • Consider techniques that address the development of the participant's expectations and role acquisition: <ul style="list-style-type: none"> - Iterative cycles: give participants the chance to experience different mentors and mentees - Direct facilitation: interaction by a third party, who follows and participates in the mentoring dialogue, assisting, and suggesting - Open access to models: shared electronic workspace that allows mentors and mentees to observe and learn others' e-mentoring relationships 	O'Neill & Harris (2005)
<ul style="list-style-type: none"> • Deal with lurkers: check all participants know how to post/reply to messages, provide test areas and arrivals areas, have a free-flowing social conferencing area, give participants time to get used to the online environment, provide areas for safe reflections and comments 	Salmon (2000)

Table 22. Matching and re-matching. Best practice in e-mentoring program IMPLEMENTATION (a literature review)

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> • Grounding in the program's eligibility criteria 	MENTOR, 2001
<ul style="list-style-type: none"> • Choose a matching method: <ul style="list-style-type: none"> - Participant choice: works best when those available for listing are plentiful and when one group will be recruited before the other group; however, it may give place to inappropriate matching and to participants not having a match - Unidirectional matching: mentees identify preferences for a mentor, the coordinator matches mentees' preferences with mentors' characteristics - Bidirectional matching: both mentees and mentors identify preferences for e-mentoring partners, the coordinator takes into account all preferences • Let mentors and mentees know the process by which they will be matched • Allow the participants to review, accept, or reject their e-mentoring partnerships 	Single & Muller (2005)

Table 23. Monitoring. Best practice in e-mentoring program IMPLEMENTATION (a literature review)

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> • Consistent and regular communications with staff, mentors, and mentees • Tracking system for ongoing assessment • Written records 	MENTOR, 2001
<ul style="list-style-type: none"> • Guidelines for support and conflict resolution • Rationale for the selection of this particular monitoring strategy • Monitor e-mails systematically 	Ross, 2004

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Table 24. Support, recognition and retention. Best practice in e-mentoring program IMPLEMENTATION (a literature review)

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> • Formal kick-off • Process for managing grievances, rematching, interpersonal problem solving, handling crises, and bringing closure to the relationships that end prematurely • Ongoing peer support for volunteers • Social gatherings of different groups as appropriate • Ongoing recognition and appreciation • Newsletters of other communications to mentees, mentors, and support staff • Program Web site with a participant guideline posted on it 	MENTOR, 2001
<ul style="list-style-type: none"> • Keep a closed mentor list, so mentors can get feedback and advice from each other. A moderator prompts early introductions and periodically seeds the list with discussion topics 	Single & Muller (2005)

Table 25. Closure steps. Best practice in e-mentoring program IMPLEMENTATION (a literature review)

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> • Private and confidential exit interviews to debrief the mentoring relationship between mentees and staff, mentors, and staff and mentors and mentees • Clearly stated policy for future contacts between mentors and mentees • Assistance for mentees in defining next steps for achieving personal goals • Organize a formal end to the programs, which might include a celebration and certificates 	MENTOR, 2001

Table 26. Types of data collected. Best practice in e-mentoring program EVALUATION (a literature review)

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> • Obtain benchmarking data after pilot program • During and after the program, collect three types of information: <ul style="list-style-type: none"> - Involvement data: frequency of interactions, continuation of mentoring relationships for the duration of the program - Formative data: participants' satisfaction with the program, examinations of the matching protocol and content of the mentoring interactions, which will guide the future enhancement of the program - Summative data: assessment of program goals achieved, which serve as a standard for comparison with a control group (students that do not undergo mentoring), address sustainability and expansion with stakeholder and founders as main audience 	Single & Muller (forthcoming)

Table 27. *Moment. Best practice in e-mentoring program EVALUATION (a literature review)*

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> Ongoing evaluation rather than at the end of the program 	MENTOR, 2001

Table 28. *Dissemination. Best practice in e-mentoring program EVALUATION (a literature review)*

RECOMMENDATIONS	AUTHOR(S)
<ul style="list-style-type: none"> Consideration of the information needs of the program's board, founders, communication partners, and other supporters Sharing of program information and lessons learned with program stakeholders and the broader mentoring community 	MENTOR, 2001

Table 29. *"Don'ts" on e-mentoring (a literature review)*

On planning and running an e-mentoring program, don't...
... rush or under-estimate the time required to set up and plan the scheme—include the coordinator, mentor, and mentee training
... commit to a long-term scheme initially
... assume mentees and mentors have good e-mail skills or easy access to equipment
... assume the software will deal with all risks or that everything is running smoothly
... let information technology to "take over the show." At best, IT must enable participants to meet their traditional goals in a better way that was practically possible before
... engage in e-mentoring if you do not have experience in face-to-face mentoring
... do it for marketing or public relations purposes, but only when a genuine need is perceived and a realistic plan can be implemented long-term
... use it as a replacement for a face-to-face mentoring program particularly with populations at high risk (failure, violence, and so on)

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practice as published by diverse authors and has been divided in three main program phases: (a) design and planning, (b) implementation, and (c) evaluation. Recommendations and sources are summarized in Tables 12-28 respectively.

Programme managers should also keep in mind some important “don’ts” on planning and running a e-mentoring program, as recommended by Ross (2004) and O’Neill, et al. (2002) and summarized in Table 29.

FUTURE PRACTICE DIRECTIONS

The main threat to survival of many e-mentoring initiatives is that of long-term sustainability. In the case of large projects in the U.S. O’Neill et al. (2002, p. 7) see in the next years a swift move from national scale, generalist programs to more localized and customized versions when they state, “The most important issue for e-mentoring as it moves into the future is tailoring e-mentoring initiatives to fit local needs. (...) even so if this means working in a less organized way and with fewer resources.”

The authors go on to point to the importance of creating software and guidance materials that will assist in the development of small e-mentoring initiatives in those circumstances where local knowledge is very critical to success. This may be the way forward for initiatives like Aimhigher in the UK, which has just been granted an extra year of “grace” after the initiative had officially run out of governmental support.

As e-mentoring becomes a more widely known and accepted modality of support, its permeation in Europe is greatly likely to increase, partially as a result from the emphasis placed on longlife learning. It is important however that the expertise developed at grassroots level is harnessed and made the most of to contribute to the success of new, larger initiatives in the European context.

Best case scenario, the next years will witness the consolidation of national and cross-national

communities of practice that promote sharing of knowledge and resources. Mutual collaboration is likely to reinforce sharing of expertise and resources that combine mentoring with other student-centered methodologies, as well as programmatic efforts based on best practice and demonstrated outcomes. As Haaris notes (O’Neill et al., 2002):

The kind of skills, sensibilities, and problem solving abilities that will be necessary to succeed in an increasingly complex and technologically saturated society will not be developed in learners who look to the technology to teach them. E-mentoring is an excellent and natural vehicle for starting to create authentic, learner centered instruction of this rich and complex variety. (p. 11)

FUTURE RESEARCH DIRECTIONS

It has been noted that the proliferation of online mentoring programs has been underpinned by very practical reasons of access and convenience. However, the benefits of these initiatives has been often assumed rather than demonstrated, and their positive outcomes have largely been based on speculation and anecdotal evidence. Compared to the plethora of Web sites connecting mentors and mentees, very little research has been done on program effectiveness. With some exceptions (Asgari & O’Neill, 2004; Calder, 2004; Carlsen & Single, 2000; Dewart et al., 2004; Headlam-Wells, 2004; Headlam-Wells et al., 2005; O’Neill & Harris, 2000), it tends to be the case that follow up research on the benefits of mentoring are much less frequent than the introduction of such program. Comprehensive literature reviews and theoretical papers on the subject also scarce, again with exclusion of the work of a few notable authors (Bierema & Merriam, 2002; Ensher et al., 2003; Harrington, 1999; Harris, O’Byryan, & Rotenberg, 1996; O’Neill, 2004; Perren, 2003; Single & Muller, 1999; P. B. Single & R. M. Single, 2005b).

Moreover, existing research agendas have been often outlined from a comparative perspective between e-mentoring and traditional face-to-face programs (for example in Ensher et al., 2003), rather than by treating e-mentoring in its own right. Future research questions should, rather, gravitate around the opportunities and limitations that e-mentoring brings, how to monitor mentoring relationships most effectively, what are the ethical and policy issues involved in keeping electronic records of the interactions, how to evaluate most effectively e-mentoring programs, and so on. Much more can also be done to benchmark e-mentoring practices across different contexts. By comparing the potential and dangers of e-mentoring in the academic world and working life. Single and Muller (2005, pp. 13-19) suggest some possible research questions in this direction:

- What motivates mentors to volunteer for such programs?
- Which matching variables are more strongly related to successful outcomes?
- How do matching methods and closeness of match influence mentoring outcomes, such as involvement in the program and the benefits gained by both the mentors and the students?
- Which are the most effective and efficient methods for training delivery? And do these depend on the type and the size of the mentor and mentee populations?
- How frequently should coaching messages be sent? What content is most useful for those engaged in online mentoring?
- What is an acceptable benchmark level for involvement with an e-mentoring program

In line with Harrington's (1999) suggestions, future exploration of e-mentoring programs should also move away from positivist approaches towards inquiries into social activity. What is clear is that at this stage, sharing research and

practice across institutions and countries is indispensable.

CONCLUSION

In summary, the experiences and research presented paint a picture of e-mentoring which is diverse and packed with venues for creativity. It was said at the beginning of this chapter that the practice of e-mentoring developed upon the foundations of the large amount of research in its face-to-face modality. However, the standpoint of this chapter is that by measuring the effectiveness and efficacy of an e-mentoring program using traditional face-to-face arrangements as a benchmark, the initial rationale for setting up e-mentoring programs is defeated. In other words, if organizers come from the belief that e-mentoring is a quick and economical choice that substitutes appropriate support structure with a snazzy Web site, taking away the pain of the administration and monitoring; then a case for keeping traditional face-to-face at all costs should be made. However, if emphasis is placed on the relation between mentor and mentee, on the importance of screening, training, and supporting mentors, and on sound program evaluation, then the question is what can e-mentoring do for newcomers that we would not have reached in a traditional program.

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