Chapter to appear in:
Bonk, C. J. & Graham, C. R. (Eds.). (in press). Handbook of blended learning: Global Perspectives, local designs. San Francisco, CA: Pfeiffer Publishing.

CHAPTER 8.3

FUTURE DIRECTIONS OF BLENDED LEARNING IN HIGHER EDUCATION AND WORKPLACE LEARNING SETTINGS

Curtis J. Bonk

Kyong-Jee Kim

Indiana University, USA

Tingting Zeng

Warwick University, UK

As is clear from reading the various chapters of this book, blended learning is more than fashionable; it is training and educational delivery method of choice. Blended learning is dominating news in higher education, in corporate America, and in governmental training settings. It is now standard part of the education and training lexicon. Organizations and institutions of learning must now account for blended learning in all its various disguises. Blended learning is seen in the linkages between instructors, learners, and classrooms located in two or states, provinces, regions, countries, or continents. Blended learning occurs in those exciting opportunities where students debate and discuss scholarly ideas in an asynchronous forum and then bring in the authors for a synchronous chat or videoconference. Blended learning happens when some course meetings or training events are conducted virtually rather than face-to-face. Such classes or training experiences can blend students located at various

remote regions or perhaps instructors collaboratively teaching a class at two or more locations. Of course, blended learning might simply supplement course readings and activities with online articles, simulations, events, and other resources. Indeed, the forms and functions of blended learning, as detailed throughout all the chapters of this book, are simultaneously mind boggling and inspiring.

Perhaps that is the take-away from this book—blended learning surrounds us; it always has. In this handbook, there are societal and governmental needs for blended approaches such as when the SARS crisis forced entire cities and countries to consider how learners and workers might best acquire access to knowledge without physical contact. It might also fill an education or training need in countries facing political turmoil, corruption, or poverty. For instance, individuals living in such precarious situations as those presently in Iraq, Afghanistan, or The Sudan at the time of this writing can certainly reap benefits from blended learning--provided that they have access to the Internet. There are also blended learning initiatives created by institutional or governmental policies that seek to individualize learning opportunities such as seen in the chapters from Korea (Lee & Im, this volume) and Malaysia (Kaur & Ahmed, this volume).

In addition to societal needs for blended learning, there are institutional and organizational ones. For instance, there are blends which dramatically reduce the travel time required for learning such as those discussed by Lewis and Orton (this volume) concerning management training at IBM. And there are blends which simply push out corporate developed materials and resources to instructors located around the globe as in the Cisco Networking Academy (see chapter by Alan Dennis and his colleagues at Indiana University). At the same time, there are naturally occurring blended events, as seen in the field experience components of

the teacher education program at National University. National University's live field experiences blend with online courses in teacher education to help the largest teacher education program in the United States expand its enrollments and activities throughout the State of California and beyond (see chapter from Reynolds & Greiner).

The promises (and, hopefully, the benefits) of blended learning are extensive. For instance, some promote increased learning, others point to the reduction in the need for brick and mortar, and still others allude to engagement, collaboration, success, ownership, and higher quality learning. Further research and innovation in the blended learning arena will help sort out the key contributions, benefits, and impact areas.

During the coming decade, crucial decisions related to blended learning will continue to face all of us. Accelerating growth in blended learning has been documented in this volume at places such as Microsoft, IBM, the University of Pretoria, the University of Glamorgan, Beijing Normal University, National University in California, and the Open University of Malaysia. In fact, each of the organizations and institutions featured in this handbook has probably had to wrestle with new strategic directions, agendas, and visions brought about by the blending of learning opportunities. In addition to strategic planning, many have entered into unique online learning partnerships (see, for instance, chapters from Ziob and Mosher, Selinger, Pease, Jagannathan, and Lee and Im, this volume).

STUDIES ON THE FUTURE OF ONLINE TEACHING AND LEARNING

In response to the above trends and issues, instructors and administrators in postsecondary institutions in North America (primarily) were surveyed to explore the current status and future directions of online education in higher education settings. We then conducted a second survey of those involved in e-learning in corporate training environments. Brief

descriptions of our survey procedures and some of the key findings from those surveys are presented below. After that, we provide our own predictions of the future of blended learning.

The higher education survey targeted college instructors who are members of MERLOT, a higher education association of more than 14,000 college professors, instructional designers, and administrators who share and peer evaluate their Web resources and materials (note that less than a year later MERLOT has more than 21,000 members and over 10,000 contributed materials). Also surveyed were approximately 2,000 members of the World Lecture Hall (WLH) (see http://web.austin.utexas.edu/wlh/) and 500 to 600 members of the Western Cooperative for Educational Telecommunications (WCET) (see http://www.wcet.info/). The first author had previously surveyed MERLOT and WLH members on the state of online learning (Bonk, 2001). This follow-up survey took place in SurveyShare (see http://surveyshare.com/), a Web-based survey tool, from late November 2003 to early January 2004.

This higher education survey consisted of 42 questions primarily related to the future of online learning in higher education. Out of more than 12,000 survey requests, there were 562 completed surveys. Unlike the previous higher education study which was dominated by males (Bonk, 2001), in this study, more than 53 percent of the respondents were females; a sign that perhaps females have growing interest and experience in online teaching environments. In addition, 65 percent of the respondents in the higher education survey were professors or lecturers while another 28 percent were administrators or technical support personnel. The rest were in educational consulting or other areas. Half of these respondents came from public colleges (26 percent of which were comprehensive universities—i.e., those with a significant amount of research activity and a wide range of programs at the undergraduate and graduate levels) and another 17 percent from private colleges (only five percent of which were

comprehensive universities). In addition, 23 percent worked in community colleges and 3 percent in online institutions.

As indicated above, a second survey was conducted of training professionals (e.g., chief learning officers, training managers, trainers/instructors, e-learning developers) on the current status and future trends of e-learning in workplace learning settings. These survey participants belonged to various types of organizations in the United States, including government, business, and not-for-profit organizations. This 49-item survey was completed by 239 individuals who were part of an e-learning conference distribution list.

There was extensive demographic information collected. For instance, in terms of e-learning backgrounds, most respondents were optimistic about the field of e-learning, possessed considerable knowledge in the field, and were involved in e-learning strategic decision making within their respective organizations. In addition, in contrast to the higher education survey, 67 percent of the respondents to the corporate training survey were males. The respondents were employed in organizations of various sizes; for instance, 25 percent worked in organizations employing fewer than 100 people. In terms of the respondent's job function, about 20 percent of them were executives (e.g., CEO, chief technology officer, or president) and about 22 percent were at the management level (e.g., e-learning manager, HR manager, and training manager). In addition, 15 percent of the respondents were instructional designers, performance technologists, or trainers/instructors, while the balance were in some type of administrative support positions.

FUTURE GROWTH OF BLENDED LEARNING

Respondents of the higher education survey, a majority of whom had experiences using web technologies in their teaching, not surprisingly, indicated that they were currently using blended learning in their teaching. In fact, 93 percent of the respondents were already using

blended learning in some way (see Figure 1). However, the use of blended learning was still modest for most of these individuals. More specifically, more than 6 in 10 participants were using blended learning for 20 percent or less of their campus courses.

What about future projections of blended learning? A quick scan of Figure 1 clearly shows that our respondents expected a dramatic rise in their use of blended learning approaches in the coming years. For instance, as shown in Figure 1, forty percent of the respondents predicted that 21-40 percent of their courses would be blended by the year 2006 and another 37 percent expected this to be higher than 40 percent. And amazingly by 2013, more than 7 in 10 respondents anticipated that they will offer more than 40 percent of their courses in a blended format. Such findings indicate that blended learning is proliferating across college and university campuses and this trend will only increase.

Insert Figure 1 approximately here

Blended learning is now a prevalent delivery method in workplace learning settings as well. The majority of our respondents from the corporate world were already using blended learning in some format. Importantly, such findings correspond with those from a recent survey by the eLearning Guild (2003). In fact, 86 percent of our workplace participants were currently implementing blended learning. However, as was seen in the higher education survey, a majority of respondent organizations (here 58 percent) were only using blended learning in 20 percent or less of their courses (see Figure 2). The corporate survey respondents also projected a considerable increase in their use of blended learning approaches in coming years. More specifically, more than 4 in 10 respondents predicted that 21-40 percent of the courses offered in

their organization would be blended by 2007, while another 32 percent indicated that it would be more than 40 percent. And by 2013 this latter number nearly doubles with roughly 60 percent of the respondents anticipating that they would offer 40 percent or more of their courses in a blended format.

Insert Figure 2 approximately here

Such findings indicate that blended learning is a permanent trend rather than a passing fad in both higher education and workplace learning settings. Given this significant adoption of blended learning in both higher education and corporate training settings, it is vital to create strategic plans and directions for it. When asked, 60 percent of the corporate survey respondents indicated that they had a strategic plan for e-learning; however, only slightly more than half of those indicated that their plan was working effectively and even fewer (37 percent) calculated the return on investment from e-learning courses, programs, and other initiatives.

PEDAGOGICAL TECHNIQUES IN E-LEARNING

In addition to such general blended learning trends, there is a need to focus on the pedagogy and technology that will be utilized in these blended environments. Although course management systems have increased rapidly in use in higher education settings and are likely the foundation for the rapid increase in online learning enrollments during the past decade, some researchers argue that course management systems are simply ways to “manage” learners rather than as a means to promote rich, interactive learning experiences (Bonk, Wisher, & Lee, 2003; Stephenson, 2001). Despite these primitive e-learning tools and systems, a variety of

pedagogical techniques can be embedded within e-learning and those techniques could have serious implications for the design and implementation of blended learning.

Our higher education survey found that online collaboration, case learning, and problem-based learning were the preferred instructional methods during the coming decade for online instructors in colleges and universities. When asked to select four pedagogical techniques that would be used most widely online during the next few years from a list of 12 instructional methods, over 65 percent selected group problem solving and collaborative tasks, while 58 percent choose problem-based learning. In contrast, only about 1 in 10 thought they might use lectures, modeling, or Socratic instruction (see Table 1). In addition, most respondents saw the potential of the web in the coming years as a tool for virtual teaming or collaboration, critical thinking, and enhanced student engagement, instead of as an opportunity for student idea generation and expression of creativity.

Insert Table 1 approximately here

Though the list of pedagogical techniques given in our corporate survey was slightly different and had one more item, similar responses were received in the corporate training survey. As shown in Table 2, the survey respondents predicted that authentic cases and scenario learning would be the most widely used method in the coming decade (63 percent), followed by simulations or gaming (50 percent), virtual team collaboration (47 percent), problem-based learning (42 percent), and coaching or mentoring (39 percent). Once again, few expected wide use of teacher-centered or didactic activities (e.g., lecturing, Socratic questioning) when training employees in coming years. However, modeling was selected by twice as many respondents as

in the higher education survey. In addition to modeling, simulations and gaming, as is emphasized in the military training chapter from Wisher (this volume), were also a more popular technique in the corporate training survey than in the higher education one.

Insert Table 2 approximately here

In both cases, the methods of choice seemed to center on active learning, problem solving, authentic learning, and collaboration. In fact, when asked what learning styles or preferences e-learning courses address today and might target a decade from now, the answers from both the higher education and the corporate respondents revealed an upcoming surge in hands-on learning activities as opposed to additional auditory, visual, or reflective ones. In fact, hands-on learning was deemed the weakest area today in online higher education courses, but during the coming decade, it is anticipated to become the most salient aspect of e-learning courses in both formal higher education settings as well as corporate training ones.

EMERGING TECHNOLOGIES

There are myriad combinations of technologies that can be used in blended learning environments today which will only grow in the coming years. Therefore, an understanding of emerging technologies that will impact the delivery of e-learning will help us in predicting promising technologies for blended learning.

Those participating in the higher education study were asked to choose one technology that would most impact the delivery of online education during the next few years. Out of 14 technologies listed, the respondents predicted that reusable content objects would have the most significant impact, followed by wireless technologies, peer-to-peer collaboration tools, digital

libraries, simulations and games, assistive technologies, and digital portfolios (see Figure 3). These findings underscore the importance of sharing content in online teaching and learning (see chapter from Wisher, this volume). In contrast, less than 5 percent of the respondents predicted that e-books, intelligent agents, tablet PCs, virtual worlds, language support, or wearable technologies would have a significant impact on the delivery of online learning in higher education settings. Of course, given the discussion of the previous chapter from Kirkley and Kirkley, those involved in online learning within higher education may be in for a surprise in the area of wearable and augmented reality technology. Perhaps these areas are simply too new or perhaps college instructors overwhelmed with the technology choices they already have.

Insert Figure 3 approximately here

The corporate survey respondents were also asked to choose a technology that would most greatly impact the delivery of e-learning in their organization in coming years. The respondents predicted that knowledge management tools would have the most significant impact, followed by online simulations, wireless technologies, reusable content objects, adaptive technologies, tablet PCs, and handheld devices (see Figure 4). In contrast, less than 5 percent of the respondents thought that digital libraries, e-books, intelligent agents, Weblogs or web diaries, and massive multiplayer online gaming would have a significant impact on the delivery of e-learning during the next few years.

Insert Figure 4 approximately here

Across these findings, it is clear that learning environments are changing; especially blended ones — they are changing in terms of student needs, technological opportunities, and pedagogical preferences. We now elaborate on ten key trends wherein blended learning will play a significant role in workplace and higher education learning environments during the coming decade.

FUTURE TRENDS IN BLENDED LEARNING

Today blended learning primarily functions as a replacement for or extension of face-to-face environments. For instance, it might be used to foster learning communities (see chapter from Hanson and Clem, this volume), extend training events, offer follow-up resources in a community of practice, access guest experts, provide timely mentoring or coaching, present online lab or simulation activities, and deliver prework or supplemental course materials. While such uses may be unique and engaging, they are not exactly novel. As online environments push into their second decade of extensive use in higher education, the forms and formats of blended learning will be extended as well. In the section below, we predict 10 trends linked to this expansion, which are summarized in Table 3.

Insert Table 3 approximately here

Trend 1. Mobile Blended Learning

What might happen to blended learning during the next decade or two? First of all, it is not too difficult to predict that blended learning will increasingly involve handheld devices; especially cell phones where one can call up the learning that is needed or demanded (see

chapters from Wagner, Kirkley and Kirkley, and DeViney and Lewis, this volume). With the increasing use of mobile and wireless technologies, the time and the place for learning, working, and socializing will blur even more. It is possible that such technologies will also be able to make learning more easily accessible for a wider range of individuals, thereby creating greater opportunities for lifelong learning (Ahonen, 2003; Keegan, 2002).

Trend 2. Greater Visualization, Individualization, and Hands-on Learning

As part of this added mobility, learning will also be increasingly individualized, visual, and hands-on. This prediction is backed up, in part, by our survey data, which revealed that online learning will soon support a greater range of learning styles and individual differences in learning. For instance, blended environments will bring pictures, charts, graphs, animations, simulations, and videoclips that the learner can call up and manipulate. The blending of delivery mechanisms, instructional approaches, technologies, and learning situations, will evolve to support learning which is individualized yet collaborative and interactive (see Wagner, this volume), that is timely and directed toward a specific need yet part of a lifelong learning journey, and that is complex and yet ubiquitous and seamlessly integrated into the learning landscape. As Wenger and Ferguson (this volume) point out, there is a need to consider and appreciate the learning ecology for studying, practicing, teaching, and coaching that e-learning presents.

Trend 3. Self-Determined Blended Learning

Third, as the options for blended learning proliferate, blended learning will increasingly address individual needs while becoming a highly complex decision making process. A key result of this trend will be that the percent of one's program that is blended as well as the forms of blended learning employed will increasingly fall on the lap of the learner. It is not just the

complexity and individuality of learning that will fuel this trend, but greater use of exploratory and self-paced learning will demand that the learner self-regulate his or her own learning. When learners take more responsibility for their own learning, there will emerge entirely new possibilities to promote and monitor or research self-determined learning (Deci & Ryan, 1985). For instance, researchers might ask whether such self-determined learners choose courses based primarily on convenience, access, and flexibility, or decide on those which offer rich pedagogy fostering learner engagement, collaboration, and interaction. Of course, as the need for the blending of learning becomes a decision primarily made by learners, they will assume greater control over the choice and labeling of their courses and degree programs. Complicating such decisions in the coming decade, adult learning environments will have multiple modes of delivery—fully online, blended, face-to-face, and other--depending on learner needs. Already the University of Illinois at Springfield is retooling all of its face-to-face (FTF) courses and programs for parallel online versions (Carnevale, 2004). Options such as these will only proliferate in the coming decades.

Trend 4. Increased Connectedness, Community, and Collaboration

In addition to greater individualization, a fourth prediction here is that blended learning will foster increased connectedness, collaboration, and global awareness. Among its' many strengths, blended learning connects people, activities, and events. It will soon be a key tool for building shared cultural understanding on a global basis. Instead of, or in addition to, huge investments in military arsenals, government officials should be building online communities and learning practices wherein knowledge, ideas, and learning products are exchanged and valued. If there is a need for an expert opinion or knowledgeable guest to evaluate or respond to student work, one can be called up on demand. If you need an online simulation, you might find

one in a site like MERLOT and provide the appropriate linkages for your students. If you want

Trend 6. Linking Work and Learning

A sixth prediction related to blended learning environments is that as these pedagogical innovations are deployed (as discussed in Trend #6 above), the differences between workplace training and formalized learning environments will undoubtedly continue to shrink. This graying of the lines between training and formalized learning will be caused by blended learning as much as it will cause new avenues for it. In business, for instance, it will be common for students to be embedded or situated in a company or other type of work setting and then report back daily or weekly through web cams, asynchronous discussions, desktop videoconferencing, instant messaging, and wearable computing devices such as those detailed in the previous chapter from the Kirkleys (Botelho, 2004). Additionally, degrees one may obtain will increasingly take place in the workplace, both in terms of credits received and credit for work performed.

Trend 7. Changed Calendaring

The expansion of learning avenues will begin to reform notions of when learning occurs. As a result of this seventh trend, learners will be less tied to traditional calendars for learning. Such movements from normal semester constraints and calendars will occur, in part, for learners to take advantage of unique learning blends when they become available, and, in part, for them to complete courses, degrees, and learning experiences when their schedules permit. Given the multiple versions of learning that will be available, there will fewer preprescriptions for learning. As learning time is less predefined, instructors and trainers as well as instructional designers and administrators will have to deal with increased ambiguity when designing distance learning courses and programs. Learning will occur when the learner feels the need and has the time, not when the institution or organization has prearranged it. For instance, grabbing a learning object

when walking on to a plane or bus will become a common and widely accepted activity by the end of the decade.

Trend 8. Blended Learning Course Designations

Courses with reduced classroom meetings or seat time will grow as universities find that blended learning not only reduces brick and mortar needs but simultaneously can increase learning outcomes. Courses may be designated as either traditional, reduced seat time, or fully online. For instance, in the University of Central Florida (UCF) chapter, Chuck Dziuban and his colleagues note that UCF was among the first to give their courses a special designation as "M" courses for reduced seat time. This begs many questions, however, including whether blended courses and associated degree programs will be more respected and accepted than either traditional or fully online ones. And will this differ according to the type and amount of the blend? For instance, courses which have one-third of their course meetings online might become more respected in the near term, than those which only meet live once or twice. Naturally, what a "live" meeting is will continue to change and evolve as synchronous conferencing or virtual classroom tools become more cost effective, stable, and widely accepted.

Trend 9. Changed Instructor Roles

The ninth trend noted in Table 3 is that the role of the instructor will definitely continue to shift and change in these rich online learning environments. Blended learning highlights the need for instructional skills in multiple teaching and learning environments. Instead of reducing the importance of the instructor, access to an instructor is more essential. In effect, as blended learning nurtures greater choices and learning opportunities, various instructional skills will become more prominent including coaching, mentoring, and counseling. Such skills are

increasingly vital as learners seek someone to turn to for support and guidance in their various learning quests (see Trend #3).

10. The Emergence of Blended Learning Specialists

Finally, blended learning is typically more complicated and multifaceted than either fully online or face-to-face learning. For example, blended learning instructors must know when to shift gears and add new tasks or resources and when to let the learners wander off and explore their own interests. Within the next few years, there will be specialist certificates and perhaps even master's degrees for blended learning instructors. Such instructors will be sought out since they will have skills for both traditional classroom instruction as well as for virtual environments. Coinciding with such trends will be portals or web sites to support the sharing of best practices among blended learning instructors as well as freelance instructor exchange portals for sharing and receiving interesting job opportunities (Bonk, 2001).

FINAL REFLECTIONS

Whether one resonates with a chapter from the world of corporate training or one from virtual higher education, this book is about expanding the options for adult learners around the planet. As shown here, with blended learning, adults can stay in the workplace while grooming themselves for new positions or simply updating their skills. And, in many programs, they can decide to come back to school without ever showing up on campus. Without a doubt, adult learners will continue to have more exciting learning options and avenues in the coming decades. Most of the adult learning opportunities outlined in this handbook would not have been possible or even conceivable a ten or twenty years ago. The authors of this volume have pushed the

envelope of the possible in adult learning. They are currently succeeding in making life a lifelong blended learning event.

REFERENCES

Ahonen, M. (2003). *Accessibility challenges with mobile lifelong learning tools and related collaboration*. Retrieved November, 5, 2004, from http://www.idi.ntnu.no/~divitini/umocec2003/Final/Ahonen.pdf

Bonk, C. J. (2001). *Online teaching in an online world*. Bloomington, IN: CourseShare.com. Retrieved October 20, 2004, from http://www.publicationshare.com/docs/faculty_survey_report.pdf

Bonk, C. J., & Cunningham, D. J. (1998). Searching for learner-centered, constructivist, and sociocultural components of collaborative educational learning tools. In C. J. Bonk, & K. S. King (Eds.), *Electronic collaborators: Learner-centered technologies for literacy, apprenticeship, and discourse* (pp. 25-50). Mahwah, NJ: Erlbaum.

Bonk, C. J., Hara, H., Dennen, V., Malikowski, S., & Supplee, L. (2000). We're in TITLE to dream: Envisioning a community of practice, "The Intraplanetary Teacher Learning Exchange." *CyberPsychology and Behavior*, *3*(1), 25-39

Bonk, C. J., Wisher, R. A., & Lee, J.-Y. (2003). Moderating learner-centered e-learning: Problems and solutions, benefits and implications. In T. S. Roberts (Ed.), *Online collaborative learning: Theory and practice* (pp. 54-85). Hershey, PA: Idea Group Publishing.

Bonk, C. J., Wisher, R. A., & Nigrelli, M. L. (2004). Learning communities, communities of practice: Principles, technologies, and examples. In K. Littleton, D. Miell, & D. Faulkner (Eds.), *Learning to collaborate, collaborating to learn* (pp. 199-219). NOVA Science.

Botehlo, G. (2004, August 13). Online schools clicking with students. *CNN.com*. Retrieved October 31, 2004, from http://www.cnn.com/2004/EDUCATION/08/13/b2s.elearning/

Carnevale, D. (2004, April 16). *U of Illinois at Springfield want to 'mirror' all classroom programs online*. Retrieved November 6, 2004, from http://chronicle.com/prm/weekly/v50/i32/32a03201.htm

Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum.

Keegan, D. (2002). *The future of learning: From elearning to mlearning*. Hagen, Germany: Fern University Institute for Research into Distance Education.

The eLearning Guild. (2003). The blended learning best practices survey. Retrieved September, 10, 2004, from http://www.elearningguild.com/pdf/1/Blended_Learning_Best_Practices_Survey.pdf

Stephenson, J. (2001). Learner-managed learning - an emerging pedagogy for learning online. In J. Stephenson (Ed.), *Teaching and learning online: Pedagogies for new technologies* (pp. 219-224). London: Kogan Page.

Figures

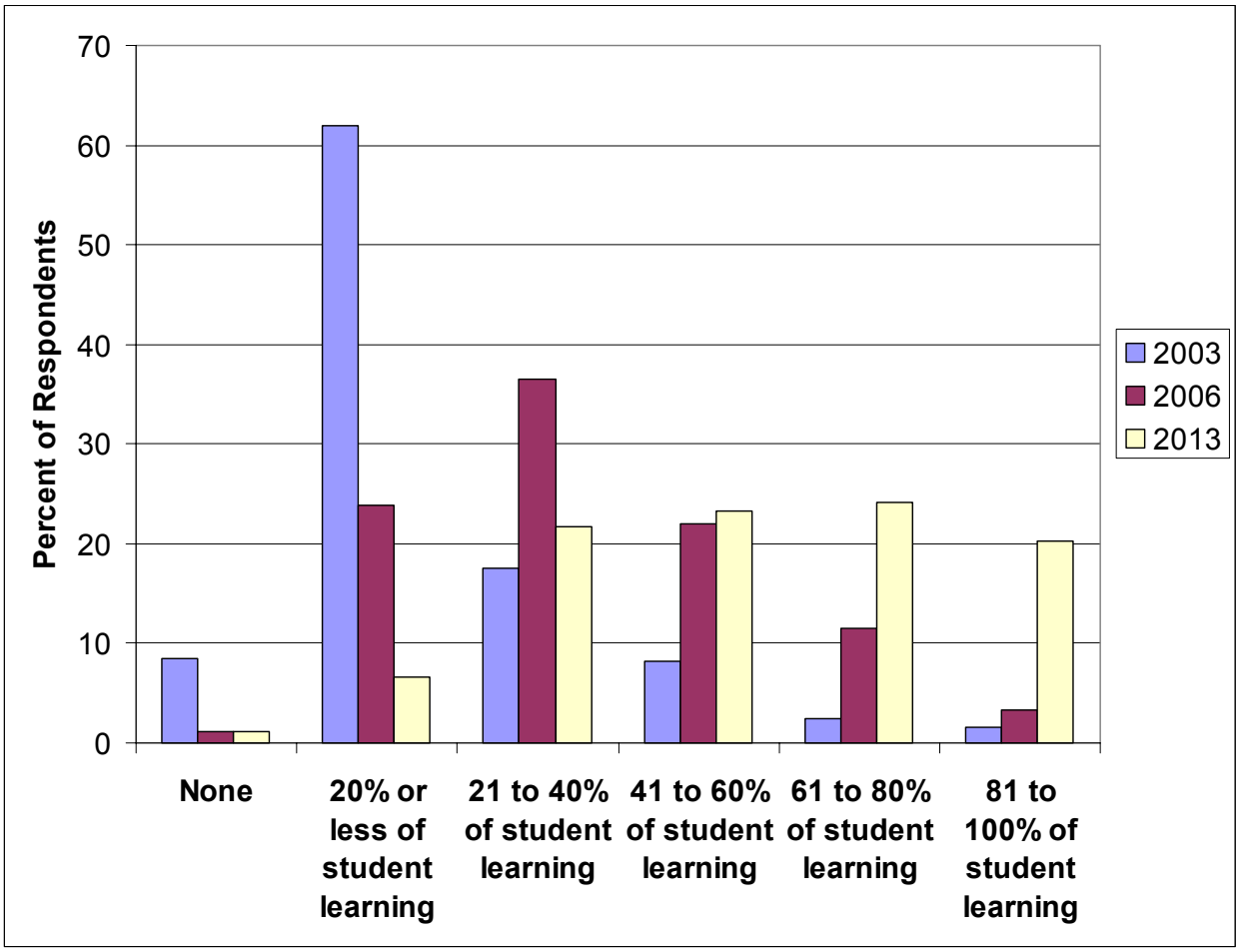

Figure 1. Expected Future Growth of Blended Learning in Higher Education Settings

Note: The question asked was "What percentage of student learning in your college, university, or organization is blended (i.e., courses having online as well as face-to-face components) today and how might this change in 3 years and in a decade?"

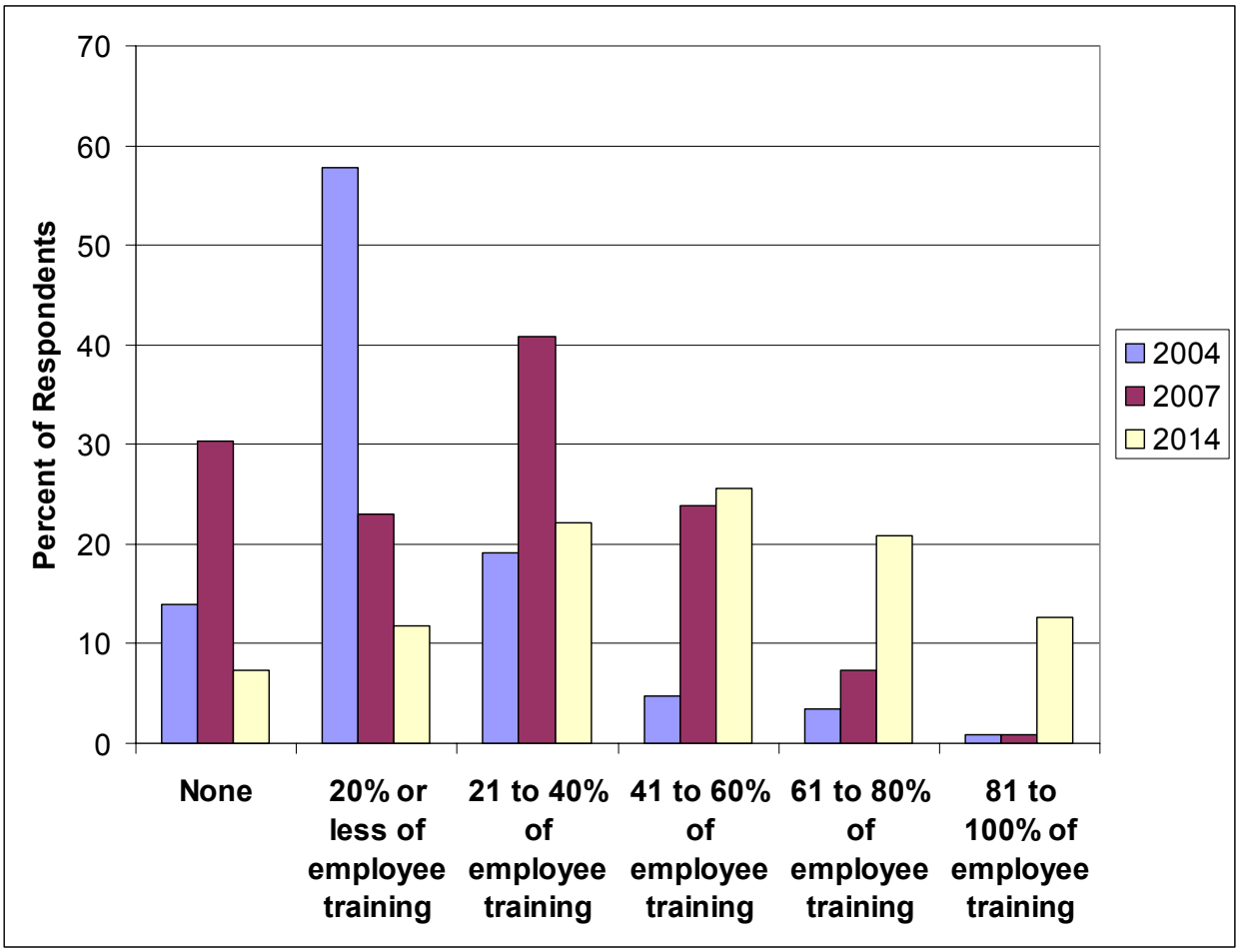

Figure 2. Expected Future Growth of Blended Learning in Workplace Learning Settings

Note: The question asked was "What percentage of employee training in organization is blended (i.e., courses having online as well as face-to-face components) today and how might this change in 3 years and in a decade?"

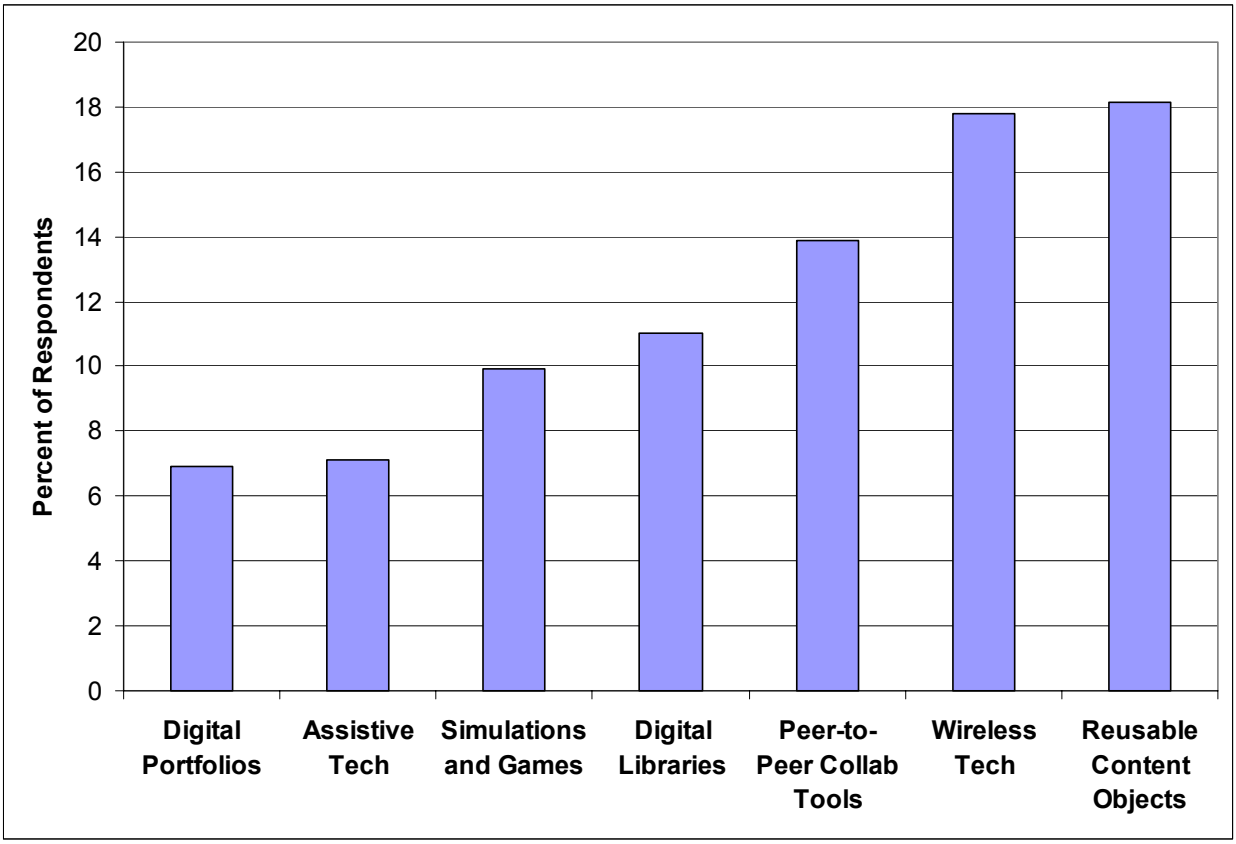

Figure 3. Emerging Technologies for e-Learning that Will Have the Greatest Impact on the Delivery of e-Learning in Higher Education during the Next Few Years

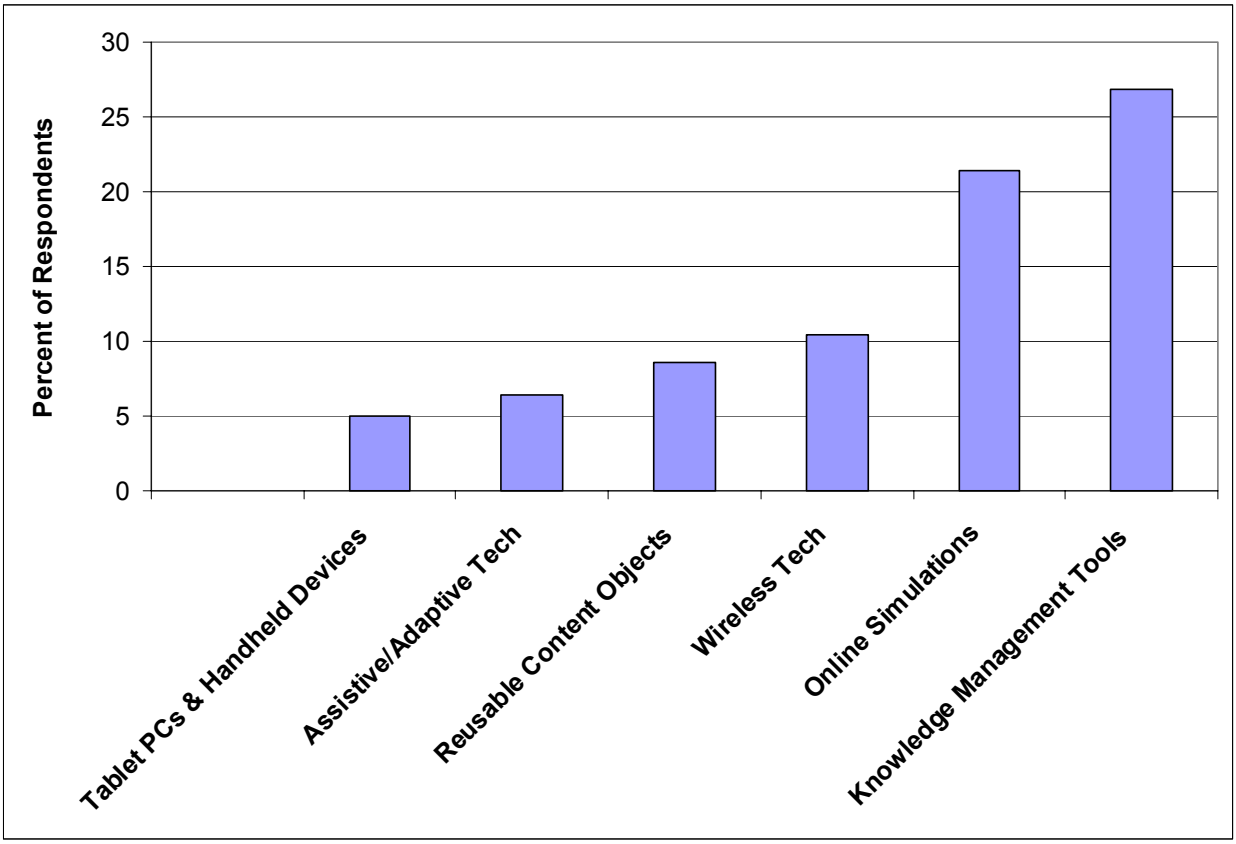

Figure 4. Emerging Technologies for e-Learning that Will Have the Greatest Impact on the Delivery of e-Learning in Workplace Learning Settings during the Next Few Years

Chapter to appear in:
Bonk, C. J. & Graham, C. R. (Eds.). (in press). Handbook of blended learning: Global Perspectives, local designs. San Francisco, CA: Pfeiffer Publishing.

Tables

Table 1. Future Predictions of Most Widely Used Pedagogical Techniques for E-Learning in Higher Education Settings

	Response Options	Number of Respondents	Response Ratio (%)
1	Group problem solving and collaborative tasks	356	65.4
2	Problem-based learning	316	58.1
3	Discussion	237	43.6
4	Case-based strategies	228	41.2
5	Simulations or role play	198	36.4
6	Student-generated content	190	34.9
7	Coaching or mentoring	162	29.8
8	Guided learning	155	28.5
9	Exploratory or discovery	147	27.0
10	Lecturing or teacher-directed activities	60	11.0
11	Modeling of the solution process	49	9.0
12	Socratic questioning	47	8.6
	Total	544	

Table 2. Future Predictions of Most Widely Used Pedagogical Techniques for E-Learning in Workplace Learning Settings

	Response Options	Number of Respondents	Response Ratio (%)
1	Authentic cases and scenario learning	145	63.0
2	Simulations or gaming	115	50.0
3	Virtual team collaboration	107	46.5
4	Problem-based learning	97	42.2
5	Coaching or mentoring	90	39.1
6	Guided learning	86	37.4
7	Self-paced learning	79	34.4
8	Exploration or discovery	45	19.6
9	Modeling of the solution process	44	19.1
10	Discussion	41	17.8
11	Debates and role play	36	15.7
12	Lecturing or instructor-directed activities	31	13.5
13	Socratic questioning	5	2.2
	Total	230	

Table 3. Trends and Predictions Related to Blended Learning

1. Mobile Blended Learning	Increasing use of mobile and handheld will create rich and exciting new avenues for blended learning.
2. Greater Visualization, Individualization, and Hands-on Learning	Blended learning environments will increasingly become individualized; in particular, emphasizing visual and hands-on activities.
3. Self-Determined Blended Learning	Blended learning will foster greater student responsibility for learning. Decisions about the type and format of blended learning will be made by students instead of instructors or instructional designers. Learners will be designing their own programs and degrees.
4. Increased Connectedness, Community, and Collaboration	Blended learning will open new avenues for collaboration, community building, and global connectedness. It will become used as a tool for global understanding and appreciation.
5. Increased Authenticity and On-Demand Learning	Blended learning will focus on authenticity and real world experiences to supplement, extend, enhance, and replace formal learning. As this occurs, blended learning will fuel advancements in the creation and use of online case-learning, scenarios, simulations and role play, and problem-based learning.
6. Linking Work and Learning	As blended learning proliferates, the lines between workplace learning and formal learning will increasingly blur. Higher education degrees will have credits from the workplace and even credit for work performed.
7. Changed Calendaring	The calendar system or time scheduling of learning will be less appropriate and predefinable.
8. Blended Learning Course Designations	Courses and programs will be increasingly designated as blended learning paths or options.
9. Changed Instructor Roles	The role of an instructor or trainer in a blended environment will shift to one of mentor, coach, and counselor.
10.The Emergence of Blended Learning Specialists	There will emerge specialist teaching certificates, degree programs, and resources or portals related to blended learning courses and programs.

Chapter to appear in:
Bonk, C. J. & Graham, C. R. (Eds.). (in press). Handbook of blended learning: Global Perspectives, local designs. San Francisco, CA: Pfeiffer Publishing.