Assessing the Educational Needs of Emergency Management Personnel

KELLY L. BROWN Indiana University Kokomo
kelkebro@iuk.edu

ABSTRACT

Homeland security and emergency management are growing fields and many leaders of organizations, companies, and communities that previously thought little about the emergency management needs of their jurisdictions now find themselves looking for ways to prepare, respond, and recover from potential manmade and natural disasters. Government organizations and universities across the country have responded to these trends and offered a variety of courses, workshops, and academic programs to those working in homeland security and emergency management. Yet, very little is known about the educational and training needs of those who work in emergency management and homeland security. This research investigates the educational and training needs of individuals working in the emergency management field in a Midwestern state. Results show that one-third of the respondents believed the training and education of individuals in their organization were lacking. Respondents expressed more interest in individual courses and workshops than in college degrees for both themselves and others in their organization. Finally, respondents indicated that planning for emergencies, emergency response planning, and disaster response and recovery operations were the most important topics to include in homeland security/emergency management education programs. Implications for future research are presented.

INTRODUCTION

The field of emergency management and homeland security[1] has grown significantly in the last two decades. According to the Bureau of Labor Statistics employment in emergency management is expected to grow by 22% between 2008 and 2018 (Lacey & Wright, 2009; see also Homeland Security Management Institute (n.d.) and Jones (2006) for more thorough discussions of the emergency management/homeland security job market). The number of emergency

[1] It can be argued that homeland security and emergency management are two distinct fields as both an academic discipline and a profession. While this issue deserves empirical and philosophical discussion, the data collected for the current research is not sufficient to contribute philosophically or empirically to this debate. The current research is not intended to analyze distinctions between homeland security and emergency management but to assess the educational and training needs of those who work in the collective field of homeland security and emergency management. As such, the terms are used to describe one field for the purposes of this research.

management and homeland security higher education programs is also increasing. In 1997, there were four degree programs in emergency management (Blanchard, 2004). Two years later, this number had increased greatly. Darlington (2008) collected data in 1999 that attempted to identify all universities and colleges which offered courses and/or programs in emergency management. She found 44 higher education institutions that offered programs (e.g., certificates, undergraduate and graduate degrees) in emergency management. Another 69 institutions offered at least one course in emergency management. Since then, growth of higher education programs has exploded (Blanchard, 2003, 2004; Cwiak, 2007). Cwiak (2012; see also Blanchard, 2004) reveals that, on average, there has been an increase of 12–18 new higher education institutions offering emergency management programs each year. More recently, FEMA (Federal Emergency Management Agency, 2014) reported that, as of September 2013, there were 275 higher education emergency management programs and 137 higher education homeland security programs.

Popular, non-academic sources have also claimed homeland security and emergency management as growing fields. For example, in an article for *U.S. News and World Report*, Gearon (2012, p. 1) identified homeland security as one of "nine new college majors with a 'future." The brief article highlights fields of study where colleges have responded to demands in the workplace. Gearon stated that over 300 programs in homeland security have been created since September 11, 2001 (p. 3). Webster (2010), also writing for *U.S. News and World Report*, included Emergency Management Specialist as one of the best jobs of 2011. One criterion for this designation was job growth. Other criteria included education and preparation, and upward mobility.

In light of the growth in jobs and academic programs in the area of emergency management and homeland security, there is surprisingly little standardization or common agreement in literature on the standing of homeland security and emergency management as an academic program (Bellavita and Gordon, 2006; Falkow, 2013; Jensen, 2010; Rollins and Rowan, 2007 as cited in Kiltz, 2011). For example, Stewart and Vocino (2013), in examining the status of homeland security and emergency management education, compare and contrast homeland security and emergency management as two distinct developing disciplines. While others (e.g., Gordon, 2007; Kiltz, 2011) argue the two are—or perhaps should be—a single discipline. Drabek (2007) identifies curricula and cultural differences between homeland security and emergency management and then suggests ways in which the *two* can be integrated.

There has been work on developing core competencies and standardizations for emergency management higher education programs. For example, FEMA's Higher Education program and the Center for Homeland Defense and Security have developed core competencies and recommended curriculum for different degree levels in higher education (Speiwak, 2011; Stewart and Vocino, 2013). The Foundation on Higher Education Accreditation has identified accreditation

standards for emergency management programs and has evaluated some emergency management degree programs (Speiwak, 2011, p. 11).

Despite these efforts to specify the discipline, very little research has been conducted which assesses the educational needs of those in the emergency management and homeland security field. The current study attempts to fill this gap in the research by examining the education and training needs of homeland security and emergency management workers. One exception to the lack of research in this area is a national study supported by FEMA's Higher Education Project. Parle and Brown (2005) attempted to identify the educational needs of emergency managers across the country by asking respondents to rate the importance of various topics related to emergency management in terms of what emergency managers must be able to do and what emergency managers must know to be effective in their work. Respondents were not specifically asked what topics they believed should be included in the education and training of emergency managers. One might conclude, however, that the topics rated as most important are those that should be included in higher education programs. The results showed that most respondents rated skill sets and competencies (i.e., what effective managers must do) as more important than theoretical knowledge (i.e., what effective managers must know). Importance was measured on a 5 point scale ranging from 1 (extremely important) to 5 (less important). All of the applied skills topics included in the survey (e.g., technology applications in emergency management) had a mean rank higher than "important." The mean ratings ranged from 1.47 to 2.73. Respondents rated the general knowledge (or more theoretical) topic areas, as overall less important than the applied skills topics. The mean ratings for general knowledge ranged from 2.36 to 3.80. Thus, it appears that emergency managers in this study preferred training over education. The most important topics, all of which were part of the applied skills set rather than the general knowledge set, were as follows: planning for emergencies and disasters, monitoring and evaluating preparedness, responding to disasters, recovery from disaster, community risk assessment, natural hazards: causes and mitigation, technological hazards: causes and mitigation, and terrorism and civil hazards: causes and mitigation.

Darlington (2008) is another exception to the lack of research on the educational needs of emergency managers. Her approach, however, was somewhat different than Parle and Brown's. Darlington sought to document all institutions of higher education and government agencies that offer courses in emergency management and identify the gaps in the available education and training of emergency managers. She found that less than 5% of the colleges and universities whose representatives responded to the survey offered an emergency management program. Approximately 12% of the schools offered emergency management courses. Of those schools offering courses, the majority offered courses in planning, mitigation, response, and recovery. Courses which covered specific

hazards (e.g., floods, hazardous materials) were not as common. Even rarer were courses in the social and behavioral sciences.

Darlington (2008) determined that emergency management education and training is a reaction to specific laws and is an accumulation of topics rather than a well-planned curriculum guided by a vision that links theory and practice. She underscored the value of an education that emphasized process rather than content and understanding rather than skills. In this way, she distinguished between professional training and an academic education. She defined education as "a process of helping people to become personally empowered" (Darlington, 2008, p. 11) and discussed the importance of critical thinking, understanding, and appreciating diversity as important elements of educating emergency management students to better serve their communities.

Pelfrey and Kelley (2013) conducted research that explored the path that should be taken by homeland security education. Specifically, they surveyed students graduating with a master's degree from the Naval Postgraduate School, faculty teaching in the graduate program, and leaders in homeland security fields. They found that homeland security education should prepare students for "complex, cognitive tasks" rather than "simple, tactical tasks" (p. 3). Respondents identified strategic collaboration and critical thinking and decision-making as the most important objectives and capabilities for homeland security leaders and administrators.

Pelfrey and Kelley (2013, pp. 1–2) focused their research on education rather than training. They distinguished between the two by underscoring the importance of cognitive tasks (i.e., education) and improving performance of tactical or simpler tasks (i.e., training). Other scholars have also distinguished professional training from an academic education. For example, Woodbury (2005) argued that both practical training and theoretical understanding are necessary in emergency management. He asserted that emergency managers should have an academic knowledge base in addition to the knowledge they acquire through experience and training. Specifically, Woodbury argued that emergency management curriculum needs to include an education in the social sciences (i.e., sociology and psychology), the science of hazards and threats, and mitigation and prevention principles. Similarly, Kiltz (2009) and Collins and Peerbolte (2011) also affirmed that emergency managers needed to be able to think critically and held that the development of this skill should be included in academic emergency management and homeland security programs.

The extant research has provided some information regarding the educational needs of emergency managers. Emergency managers appear to want training in applied skills while scholars support a move toward a theoretically grounded education. There is some evidence to suggest that the education students of emergency management are receiving is more vocationally- than theoretically-oriented. Like Darlington (2008), Cwiak (2007, 2012) and Fischer (2004) found that many of the

courses offered by higher education emergency management programs are geared toward teaching specific applied skills or basic knowledge of the field. This is further evidenced by the finding that many higher education emergency management programs utilized FEMA's EMI Independent Study coursework. In 2004, Fischer reported that 40% of the programs used FEMA courses. Cwiak reported that 62% of the programs in 2007 included FEMA courses in their curriculum. This percentage decreased slightly in the 2012 study which showed that 55% of the programs in 2012 used FEMA courses.

Despite the research that examines the educational needs of emergency management personnel and the status of emergency management programs in higher education, there is still much we do not know. This is due, in part, to the few studies that have assessed the educational needs of emergency managers. Further limitations of extant research in this area should also be considered. First, the research is limited in scope. The one study which specifically claims to assess the educational needs of emergency managers (Parle & Brown**,** 2005) does not move beyond identifying the importance of specific skills and knowledge necessary to be an effective emergency manager. A second study seeks to identify gaps in the higher education of emergency managers, but explores this issue by examining what programs are offering rather than assessing the needs of emergency management personnel directly. Second, the research is dated. For example, the data for Darlington's (2008) research was collected in 1999. Third, the research has focused on individuals who work as emergency managers. There are countless workers whose jobs include emergency management responsibilities and whose educational needs have not yet been assessed.

The current study attempts to address these limitations by considering the perspectives and views of emergency management personnel on their educational needs, by including other groups whose responsibilities include emergency management, and by providing a more recent assessment than previous studies.

METHODS

Much has been written on the status of emergency management and homeland security programs in higher education, but very little is known about the educational and training needs of those who work in homeland security and emergency management. This research attempts to address the gaps in our knowledge about the educational needs of individuals who work in emergency management. It is important to note that the educational needs of emergency management and homeland security practitioners may be distinct from the training needs of practitioners. Education and training, while often used interchangeably, are distinct. Education refers to the study and learning that occurs at an institution of higher learning with the purpose of increasing knowledge and developing thought processes and understanding. Training, on the other hand, denotes the acquisition and practice of particular skills (for more thorough discussions of training and education, see, for example, Cross, 1996;

Essenhigh (2000); Gibbs, Brigden, & Hellenberg, 2004). While the main purpose of this study was to examine the educational needs of practitioners working in the field of homeland security and emergency management, it would be a serious oversight not to incorporate training needs in the assessment as well. Thus, the purpose of this research is twofold:

1. The research seeks to identify the types of training and education emergency management personnel desire for themselves or others in their organization.
2. The research attempts to identify those topics emergency management personnel believe should be included in homeland security and emergency management education programs.

Research Site

The research was conducted in Indiana and was facilitated by the state's Department of Homeland Security Higher Education Advisory Board. The Indiana Department of Homeland Security has made great inroads in building relationships between higher education programs and practitioners. The advisory board has been the impetus for sharing and developing information, strategies, and best practices for offering quality homeland security and emergency management courses and programs in higher education. One element of this included gaining a better understanding of what emergency management personnel needed in terms of training and education. A research committee was created and charged with designing and conducting a research project which assessed the educational needs of individuals in the state whose work involved emergency management and homeland security. This research study is one result of this project.

Data Collection

A list of groups who work in emergency management related fields in the state was developed. The list included hospital preparedness groups, local emergency managers, and two industrial security groups who were ultimately selected to be included in the study. The exact number of individuals in the target population could not be determined. The individuals who had access to the groups were unwilling or unable to give out membership lists or identifying information (e.g., e-mail addresses) so that an accurate count could be made. Consequently, a non-probability sampling technique was used.

Data was collected in two ways. First, e-mails (which included a cover letter and a link to the survey) were sent to the groups' listservs between October, 2009 and October, 2010. Several factors resulted in the e-mails being distributed to the groups at different times. First, the listservs for the groups were controlled by different individuals who were unwilling or unable to provide the e-mail addresses to the researcher so that the groups could receive the invitation to participate in the survey at the same time. The researcher was required to send an initial e-mail that included the information about the survey and the link to the electronic survey to the individual who controlled the listserv who then forwarded the e-mail to the entire group. Second, there were some groups who received regular and frequent requests for survey participation. The contact person for

these groups was unwilling to send the survey to the groups at certain times because of the interference with other survey requests. Third, the individuals who controlled the lists were extremely busy professionals which may have resulted in the survey requests being moved to the bottom of their to-do lists on a regular basis. The researcher requested that follow-up e-mails be sent at least once two weeks after the initial e-mail was sent to remind the recipients about the survey and to request that they complete the survey if they had not already done so. It is unknown if these follow-up e-mails were sent.

The second data collection occurred at a statewide higher education emergency management and homeland security conference in October, 2010. Paper copies of the surveys were made available to the attendees. The researcher explained to the attendees the purpose and nature of the research and requested that attendees complete the paper questionnaire that was placed in a folder they received along with other conference materials. Attendees were cautioned that they may have received a request via e-mail to complete the survey online and were asked to only complete the survey once. Forty-three paper questionnaires were completed. An additional 112 usable electronic surveys were completed. A total of 155 respondents participated in the study.

Variables

Data was collected on demographic variables (e.g., age, race, gender) and employment status and history. Employment data included current position, time in current position, type of organization at which respondent was employed, and time devoted to emergency management responsibilities. Information on educational interests for both respondent and others in the respondents' organizations and information on the type of training and education respondents had received were also gathered. Respondents were asked to indicate how important they believed it was to include different emergency management-related topics in a homeland security and emergency management education program. Finally, respondents were asked about their agency's preparedness level, the training and education level of their organizations' employees, and how likely they believed certain disaster events were to occur in their area.

RESULTS

Table 1 presents the demographic variables of the respondents. The emergency management personnel who participated in this study were similar in demographic characteristics to emergency managers in earlier studies. The respondents were more likely to be male, white, older, and fairly well educated. There are slightly more females in this study (34.5%) than in earlier studies. Parle and Brown (2005) reported that 16% of their respondents were female. Sullivan's (2011) survey of emergency managers revealed that 28% of the participants were female. The current study also showed a lower percentage of respondents with college degrees. Approximately 53% of the respondents had a bachelor's degree or higher. Prior research reported that 75% and 85% of emergency managers held

a bachelor's degree or higher (Marks, 2005; Sullivan, 2011). The mean age of respondents in the current study was 50.64 years although ages ranged from 26–70 years. Earlier studies on emergency managers found similar results. For example, Parle and Brown (2005) found that more than half of their respondents were over 50 years of age. Marks (2005) and Sullivan (2011) found 33% and 41% respectively were over 50 years old.

Table 1. Sample Characteristics

Variable	(N)	Percent
Gender		
Male	97	65.5
Female	51	34.5
Race		
White	137	95.8
Non-White	6	4.2
Education		
High School or GED	12	8.2
Some College	37	25.3
Associate's	20	13.7
Bachelor's	48	32.9
Master's	27	18.5
Professional or Doctorate	2	1.4
Age (mean = 50.64 years)		
26–39	19	13.9
40–49	33	24.1
50–59	66	48.1
60+	19	13.9

Information on the respondents' current work situation and work history are shown in Table 2. Eighty-six percent of the respondents were full-time. Just over 77% of the respondents classified their position as manager/supervisor or upper management. About half the respondents had worked in their current position less than five years. About 25% had worked in their position between five and ten years. The results regarding work history mirror those in the extant research which show also that emergency managers are likely to have spent fewer than five years in their current positions (see, for example, Parle & Brown, 2005; Sullivan 2011).

Table 2. Work Characteristics

Variable	(N)	Percent
Current Position		
Full-time	125	86.8
Part-time	19	13.2

Table 2. Work Characteristics (cont'd)

Variable	(N)	Percent
Current Position		
Employee	28	19.2
Manager/Supervisor	60	41.1
Upper Management	53	36.3
Other	5	3.4
Time in Current Position		
Less than 1 year	12	8.7
1–2 years	29	21.0
3–5 years	29	21.0
5–10 years	34	24.6
10–15 years	16	11.6
More than 15 years	18	13.0
Type of Organization		
Public	81	57.0
Private	43	30.3
Other	18	12.7
Specific Type of Organization		
Healthcare Field	68	47.2
Non-Government Organization	3	2.1
Government Organization, Non-EM	4	2.8
K–12 Education	5	3.5
Higher Education	3	2.1
Emergency Management Field	51	35.4
Other	10	6.9
Number of Employees		
0–10	32	21.5
11–25	3	2.0
26–50	7	4.7
51–100	4	2.7
More than 100	102	68.5
Tuition Reimbursement		
Yes	76	51.7
No	71	48.3
EM Job Description		
Yes	114	84.4
No	21	15.6

Table 2. Work Characteristics (cont'd)

Variable	(N)	Percent
Weekly Time Devoted to EM		
0–10%	36	24.8
11–25 %	27	18.6
26–35%	13	9.0
36–50%	16	11.0
51–75%	13	9.0
75–100%	40	27.6
Training/Education in EM*		
Individual Course/Workshop	103	66.5
EM/HS Certificate	52	33.5
EM/HS Bachelor's Degree	3	1.9
Professional Certification	27	17.4
None	10	6.5
Sources of Training*		
Professional Association	46	29.7
State DHS	98	63.2
USDHS	67	43.2
FEMA	109	70.3
Local Government	60	38.7
Private Sector	44	28.4
College/University	48	31.0
None	4	2.6
Training and Education Level of Employees		
Lacking	50	33.1
Adequate	51	33.8
Good	49	32.5
Excellent	1	.7
Organization Prepared to Respond		
Not Prepared at All	1	.7
Somewhat Prepared	51	33.3
Prepared	73	47.7
Very Prepared	28	18.3
Organization Prepared to Recover		
Not Prepared at All	3	2.0
Somewhat Prepared	77	50.7
Prepared	56	36.8
Very Prepared	16	10.5

*Totals may exceed 100% because more than one response may have been applicable.

Fifty-seven percent of the respondents worked in the public sector. Almost half (47%) worked in the healthcare field and another 35% worked specifically in the

emergency management field. More than two-thirds of the respondents worked in organizations that employed more than 100 workers. This is a reasonable finding given that almost half of the respondents worked in the healthcare field. Also, not surprising, is the finding that about 22% of the respondents worked in organizations that employed ten or fewer employees. Many of the local emergency management agencies have just one or two employees.

Most of the respondents (84.4%) indicated that emergency management was part of their job description and more than 25% indicated that emergency management took up 75–100% of their weekly time. Notably, another 25% indicated that emergency management took up 10% or less of their weekly time. More than two-thirds of the respondents had received training in emergency management through individual courses or workshops. Thirty-three percent indicated they had earned an emergency management/homeland security certificate, and 17% had received professional certification in emergency management/homeland security. The majority of respondents had received training from FEMA (70.3%) and from their state department of homeland security (63%). Almost 40% had received training from their local government, and almost one-third of the respondents had received training from a college or university.

Respondents were asked if they would say the emergency management and homeland security training and education level of their organizations' employees was lacking, adequate, good, or excellent. The answers were almost evenly distributed among lacking, adequate, and good. That is, 33.1 percent said the homeland security/emergency management training and education level of employees at their organization was lacking. Another 33.8% said adequate, and 32.5% said good. Only one respondent (.7%) stated that the training and education level was excellent. Despite the apparent view that the training and education levels of employees was not as good as it could be, two-thirds of the respondents believed their organization was prepared or very prepared to respond to a disaster, and just over 47% believed their organization was prepared or very prepared to recover from a disaster. Another 33% and 51% of respondents indicated their organizations were somewhat prepared to respond to and recover from disasters, respectively. Overall, the respondents believed their organizations were better prepared to respond to rather than to recover from a disaster.

Respondents generally believed that a disaster was likely to occur in their area. These results are presented in Table 3. The respondents were asked to indicate on a scale from 1 (very unlikely) to 6 (very likely) how likely they believed eight different events were to occur in their area. The events included tornado, earthquake, terrorist attack, pandemic influenza, flood, technology failure, infrastructure collapse, and hazardous material incident. The mean scores for each event ranged from 3.31 to 5.52. The average likelihood of all events was 4.40 which indicates that the respondents believe that a disaster of any sort (at least among those included in the study) was likely to occur. Based on mean scores, the

respondents believed that a tornado, hazardous material incident, and pandemic influenza were the most likely to occur.

Table 3. Likelihood of Events in Own Area (Range 2–6)

Variable	Mean
Tornado	5.52
Hazardous Material Incident	4.94
Pandemic Influenza	4.80
Flood	4.74
Technological Failure	4.72
Infrastructure Collapse	3.68
Earthquake	3.51
Terrorist Attack	3.31
Average Likelihood of Any Event	4.40

Respondents were asked about the types of education and training they would be interested in for themselves and for others in their organization (see Table 4). The results showed that the respondents were most interested in individual courses and workshops for both themselves and others. Sixty percent of respondents were interested in individual courses and workshops for themselves, and 66% were interested in these for others in their organization. Certificate was the second most frequent choice of participants. Respondents were not as interested in college degrees for either themselves or others. Less than 20% of respondents were interested in associate's, bachelor's, or master's degrees for themselves or others. It should be noted, however, that when responses for college degrees were combined, almost half of the respondents were interested in some type of college degree for themselves, and approximately one-third of the respondents were interested in some type of college degree for others in their organization. Only 3% of respondents were not interested in any type of emergency management training or education for themselves or others.

Table 4. Educational/Training Preference

Variable	(N)	Percent
EM Programs for Self*		
Individual Courses/Workshops	93	60.0
Certificate	70	45.2
Associate's	22	14.2
Bachelor's	26	16.8
Master's	23	14.8
Doctorate	8	5.2
None	5	3.2
EM Programs for Others*		
Individual Courses/Workshops	102	65.8

Table 4. Educational/Training Preference (cont'd)

Variable	(N)	Percent
EM Programs for Others* (continued)		
Certificate	84	54.2
Associate's	19	12.3
Bachelor's	21	13.5
Master's	11	7.1
Doctorate	0	0.0
None	4	2.6
Method of Instructional Delivery		
Classroom Only	5	3.3
On-line Only	20	13.3
Blended	122	81.3
Other	3	2.0

*Totals may exceed 100% because more than one response may have been applicable.

Respondents were asked what type of instructional delivery was most conducive to the educational needs of their organizations: classroom only, on-line only, or blended. The majority (81%) wanted a blended method of instruction. That is, respondents preferred education and training programs that included both classroom and on-line instructional methods. They were also asked to indicate on a scale of 1 (not important at all) to 4 (extremely important) how important they believed it was to include each of a list of topics in an emergency management/ homeland security education program. The list included 26 topics related to emergency management and homeland security. The topics and their ratings are shown in Table 5. The means for each topic ranged from 2.34 to 3.68. The average mean for all topics was 3.11. The topics rated most highly were planning for emergencies, emergency response planning, disaster response and recovery operations, emergency planning training, and emergency management leadership. Each of these topics had a mean higher than 3.5.

Table 5. Importance of Education and Training Topics (Range 1–4)

Topic	Mean
Planning for Emergencies	3.68
Emergency Response Planning	3.68
Disaster Response and Recovery Operations	3.56
Emergency Planning Training	3.54
Emergency Management Leadership	3.53
Community Risk Assessment	3.38
Natural Hazards – Causes and Mitigations	3.34
National Incident Management System	3.30
Hazardous Material Management	3.23
Risk/Threat Analysis and Assessment	3.22

Table 5. Importance of Education and Training Topics (Range 1–4) (cont'd)

Topic	Mean
Physical, Chemical, and Biological Hazards	3.21
Business Continuity Planning	3.17
Pandemic Influenza	3.15
Technology Applications in Emergency Management	3.11
Legal Basis of Emergency Management	2.99
State and Local Government	2.95
Occupational Safety and Health	2.93
Terrorism	2.91
Use of Mapping/Geographic Information Systems in Emergencies	2.87
Cybersecurity Issues	2.85
Social Impacts of Disasters (Sociology)	2.85
Policy Analysis and Program Evaluation	2.83
Management Theory and Practice	2.81
Governmental Budgeting and Financial Management	2.76
Intergovernmental Relations	2.80
Evolution of Disaster Policy in the U.S.	2.34
Total Mean	3.11

DISCUSSION

While respondents generally agreed that their organizations were prepared to respond to and—to a lesser degree—to recover from disasters, they varied on whether their organization's employees were adequately trained and educated. Further, despite their relatively high education levels (most had college degrees), they expressed interest in additional training for themselves and for others in their organizations. Specifically, respondents were most interested in continuing their education or training through individual courses and workshops. This finding is similar to Parle and Brown's (2005) results but appears to contradict Pelfrey and Kelley's (2013, p. 3) results which suggest that homeland security education should prepare students for complex, cognitive tasks rather than simple, tactical tasks." The disparate findings may be due to Pelfrey and Kelley's focus on graduate students and faculty and their specific interest in education rather than training. It is reasonable, in this context, to find that the respondents valued education in cognitive processes rather than in the development of specific "trade-related" skills. It should be noted that others have also underscored the need for critical thinking skills in today's emergency managers. For example, Collins and Peerbolte (2011) assessed critical thinking of local emergency managers in Virginia. They found that the respondents scored lower on all five critical thinking skills than other management professionals. Kiltz (2009) and Darlington (2008) also argue for including the development of critical thinking skills in homeland security and emergency management programs.

In the current study, about one-third of the respondents had earned a bachelor's degree. Another 18% had received a graduate degree. It is possible then, that these particular emergency management personnel (particularly those in management positions) were not interested in furthering their education but were seeking to continue their training to improve their effectiveness at their current jobs. This by no means indicates that the burgeoning degree programs in emergency management and homeland security are ill-timed or irrelevant. It is possible that many current emergency management workers received their degrees in an era when there were few emergency management degree programs from which to choose. New generations of emergency management personnel are emerging and it is likely that, while the older generations of emergency managers have earned degrees in something other than emergency management, newcomers to the field want a college education in the discipline. Furthermore, some respondents indicated an interest in college degrees. While many respondents already held college degrees, some did not. Individuals already working in the field may wish to continue their education as a means for advancement or to acquire additional knowledge in the field and, therefore, wish to earn a degree higher than the one they have already received.

Another possible explanation for the desire for workshops and individual courses is seen in the results regarding the respondents' beliefs in the likelihood of certain events occurring in their area. The results show that, overall, respondents believed that an event was likely to occur. It is reasonable to expect that emergency management personnel want to be prepared for events that they believe are likely or very likely to occur. More training could result in better preparation.

Respondents were also asked what topics they believed were important to include in an emergency management/homeland security education program. Not surprisingly, the respondents believed all the topics were at least somewhat important. Among the specific topics that respondents believed were important or extremely important were those of a more practical nature including topics on specific hazards (e.g., pandemic influenza; physical, chemical, and biological hazards) and those on specific skills (e.g., emergency management leadership, community risk assessment, business continuity planning, and technological applications in emergency management). This finding is not surprising given that the respondents were more interested in training in the form of individual courses and workshops. That is, these particular topics appear to be ones that are more conducive to individual course and workshops. These findings suggest that today's emergency management and homeland security practitioners prefer training (e.g., skills acquisition) to education (e.g., knowledge and cognitive development). Further research is needed to determine if this finding is specific to this sample or if it is generalizable to other groups as well.

Most respondents wanted their education and training in the form of blended instructional delivery. In other words, most wanted courses in a combination of face-to-face and on-line formats. Given today's technology and the busyness of

emergency managers, this finding is not surprising. Future research needs to investigate further what is meant by a preference for blended instructional deliveries. Some colleges offer hybrid classes which, over the semester, meet both on-line and in the classroom. Alternatively, some programs offer some courses on-line and some courses in the classroom. More research is needed to more fully understand how emergency management personnel define blended instruction and how blended instruction rather than on-line only or classroom only instruction can meet the needs of emergency management practitioners.

The current study has identified some educational needs of those who work in emergency management. There are some limitations to this study which should be addressed in future research. First, the current study focused mainly on emergency managers and individuals who work in the healthcare-related emergency management field. There are numerous other groups whose responsibilities include emergency management such as the primary and secondary educational systems, private businesses, faith-based and other nongovernmental organizations, and government entities not specifically related to emergency management (e.g., correctional facilities). The educational needs of these groups should also be assessed. Second, this educational needs assessment was conducted in one state. The results may not be generalizable to practitioners in other states. Educational needs assessments should be conducted in other areas. It is possible that the educational needs of emergency management personnel in other regions of the country would vary from the ones identified here. Third, the current study represents a very small number of emergency management workers and the sample was selected using purposive, nonprobability sampling. Thus, the results may only apply to the present sample and may not be generalizable to a larger population even within this one state. The study should be duplicated using a randomized sampling technique that incorporates a wider spectrum of emergency management and homeland security practitioners.

CONCLUSION

The results presented here support past research on emergency managers and educational needs assessments. It would seem, based on the current research, which assesses the educational and training needs of emergency management personnel, and on the extant research, which shows what higher education emergency management programs are providing, that higher education has done a good job thus far in meeting the needs of emergency management practitioners. More research which clearly links the educational needs of emergency management personnel and the services and education provided by higher education to emergency management personnel is needed. A related area which should be examined is the value that emergency management leaders and decision-makers (e.g., local, state, and federal politicians) place on emergency management and homeland security education and the types of education and training they require of their employees. Future research should also evaluate the quality of emergency management higher education. In the meantime,

universities, colleges, and emergency management/homeland security agencies should continue to offer and develop academic and training programs that address the needs of those entering the field who want discipline-specific higher education and those who want vocational training to improve their effectiveness and to promote better practices in the field.

REFERENCES

Bellavita, C., & Gordon, E. M. (2006). Changing homeland security: Teaching the core. *Homeland Security Affairs, 2*(1), 1–19.

Blanchard, B. W. (2003). *Emergency Management Higher Education Status* [Abstract]. Retrieved on January 13, 2013, from http://training.fema.gov/EMIWeb/edu/highpapers.asp

Blanchard, B. W. (2004). Emergency management higher education: A year in review and in context. *IAEM Bulletin, 21*(5), 1+.

Collins, M. L., & Peerbolte, S. L. (2011). An exploratory research design further demonstrating the need for the integration of critical thinking skill curricula in homeland security and emergency management higher education programs. *Journal of Homeland Security and Emergency Management, 8*(2), 1–9.

Cross, J. (1996). Training vs. education: A distinction that makes a difference. *Bank Securities Journal*. Retrieved from www.internettime.com/learning/articles/training.pdf

Cwiak, C. L. (2007). *The face of emergency management education.* 2007 FEMA Emergency Management Higher Education Program Report. Retrieved from http://training.fema.gov/EMIWeb/edu/surveys.asp

Cwiak, C. L. (2012). *Shaping the future: A status report on emergency management higher education.* 2012 FEMA Higher Education Program Report. Retrieved from http://training.fema.gov/EMIWeb/edu/surveys.asp

Darlington, J. D. (2008). *The profession of emergency management: Educational opportunities and gaps.* Retrieved from http://training.fema.gov/EMIWeb/edu/prof_em.pdf

Drabek, T. (2007). *Emergency management and homeland security curricula: Contexts, cultures and constraints.* Paper presented at the Western Social Science Association Annual Meeting in Calgary, Canada. Retrieved from http://training.fema.gov/EMIWeb/edu/highpapers.asp

Essenhigh, R. H. (2000). A few thoughts on the difference between education and training. Excerpt taken from a letter to the editor of *National Forum: The Phi Kappa Journal*, Spring, 46. Retrieved from www.uamont.edu/facultyweb/gulledge/Articles/Educationversustraining.pdf

Falkow, M. (2013). *Does homeland security constitute an emerging academic discipline? (cohort CA1105/1106).* Retrieved from https://www.hsdl.org/?view&did=736325

Federal Emergency Management Agency (2013). *Alphabetical listing of emergency management collegiate programs.* Retrieved from https://training.fema.gov/EMIWeb/edu/collegelist

Fischer, H. (2004). *FEMA higher education project survey results 2004*. Millersville University: Center for Disaster Research & Education. Retrieved from http://training.fema.gov/EMIWeb/edu/surveys/Surveys%20-%20Fischer Henry%20-%20FEMA%20Hi%20Ed%20Project%20Survey.pdf

Gearon, C. J. (2012). Discover 9 new college majors with a future. *U.S. News and World Report*. Retrieved from http://www.usnews.com/education/best-colleges/articles/2012/09/12/discover-9-new-college-majors-with-a-future

Gibbs, T., Brigden, D., & Hellenberg, D. (2004). The education versus training and the skills versus competency debate. *South African Family Practice, 46*(10): 5–6.

Gordon, P. D. (2007, October). *The state of emergency management and homeland security: The need for a common sense of direction.* Paper presented at the Indiana Emergency Management/Homeland Security Higher Education Advisory Board's Third Annual Emergency Management/ Homeland Security Higher Education Conference, Indianapolis, Indiana.

Homeland Security Management Institute (n.d.). *Homeland security employment*. Long Island University at Riverhead: Homeland Security Management Institute. Retrieved from http://www2.southampton.liu.edu/homeland/employment.html

Jensen, J. (2010). *The argument for a disciplinary approach to emergency management higher education.* Retrieved from http://training.fema.gov/EMIWeb/edu/highpapers.asp

Jones, E. (2006). Careers in homeland security. *Occupational Outlook Quarterly*, Summer, 2–15.

Kiltz, L. (2011). The challenges of developing a homeland security discipline to meet future threats to the homeland. *Journal of Homeland Security and Emergency Management, 8*(2), 1–20.

Kiltz, L. (2009). Developing critical thinking skills in homeland security and emergency management courses. *Journal of Homeland Security and Emergency Management, 6*(1), 1–23.

Lacey, T. A., & Wright, B. (2009). Occupational employment projections to 2018. *Monthly Labor Review*. Bureau of Labor Statistics. Retrieved from http://www.bls.gov/opub/mlr/2009/11/art5full.pdf

Marks, C. (2005). *IAEM emergency management demographics survey.* Retrieved from http://training.fema.gov/EMIWeb/edu/surveys.asp

Parle, W., & Brown, A. (2005). *Educational needs survey report*. Higher Education Project of the Federal Emergency Management Administration. Retrieved from http://training.fema.gov/EMIWeb/edu/surveys.asp

Pelfrey, W. V., & Kelley, W. D. (2013). Homeland security education: A way forward. *Homeland Security Affairs, 9*, 1–12.

Spiewak, D. L. (2011). Development of an accreditation program: The foundation for higher education accreditation. Retrieved from http://www.ffhea.org/media/c1d472da1076163ffff86f6ffffe417.pdf

Stewart, K. B., & Vocino, J. (2013). Homeland security in higher education: The state of affairs. *Journal of Public Affairs Education, 19*(1), 13–29.

Sullivan, D. K. (2011). *Who are the emergency managers in higher education?* Retrieved from http://training.fema.gov/EMIWeb/edu/surveys.asp

Webster, H. C. (2010). Best careers: Emergency management specialist. *U.S. News and World Report.* Retrieved from http://http://money.usnews.com/money/careers/articles/2010/12/06/best-jobs-2011-emergency-management-specialist

Woodbury, G. L. (2005). Critical curriculum for emergency management leaders: Three essential themes. *Journal of Emergency Management, 3*(2), 27–29.

ACKNOWLEDGMENT

The author wishes to thank the members of the Indiana Department of Homeland Security's Homeland Security and Emergency Management Advisory Board and the Board's research committee for help in constructing the survey instrument and identifying groups to survey.