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Challenges of Emergency Management in Higher Education:

Planning and Strategies

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The CEM® and baseline credentialing are not mutually exclusive, and it is conceivable that those who have met baseline credentialing will seek the certification as a nod to the years of experience and the quality of contributions they have made to the profession. This will necessarily mean that the CEM® will evolve as the baseline certification evolves, but it does not eliminate the esteem that the certification confers.

2

The Argument for a Disciplinary Approach to Emergency Management Higher Education

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MANY ACADEMICS ACTIVE IN DISASTER studies and hazard studies would argue that emergency management in higher education, or "the study of how human beings create, interact with, and cope with hazards, vulnerabilities, and the events associated with them,"[1] must be approached from an interdisciplinary or multidisciplinary perspective. Arguments in favor of these approaches appear grounded in the following claims:

1. The study of emergency management is so complex that understanding and developing knowledge involving these topics require the input of more than one discipline.[2]

2. Many academic disciplines have made or could make valuable contributions to the study of emergency management.[3]

3. Research on topics in emergency management is already trending toward being multidisciplinary or interdisciplinary.[4]

4. Either a multidisciplinary or an interdisciplinary approach is the best way to improve not just our understanding of hazards,

risks, disasters, and how people adapt to them, but also practice and policy.[5]

According to David Alexander, "the key to the adequate development and teaching of disaster studies lies in making them interdisciplinary."[6] A number of disaster researchers have echoed this sentiment.[7] The academic community associated with emergency management seems to believe that this field of study is not—or should not be construed as—a traditional academic discipline.

The issue of emergency management's disciplinary nature is far from resolved. Like many academics associated with emergency management, Brenda Phillips asks,

Is emergency management a discipline? Or a multidisciplinary endeavor? Or a truly interdisciplinary field, integrated into something greater than the sum of its parts? Or perhaps a combination, that these are not mutually exclusive?[8]

These are important questions for those involved in emergency management in higher education to address. Whether it is decided that emergency management higher education (EM Hi Ed) should be approached as a discipline in its own right, or is multidisciplinary or interdisciplinary in nature will influence the development of EM Hi Ed programs—their faculty, teaching, curriculum, funding, and research—going forward.

This paper argues that emergency management is already on the verge of becoming a discipline in and of its own right, but that there is still a need and place for multidisciplinary and interdisciplinary work. Support for this argument can be found in the development of disaster and hazard studies within the fields of sociology and geography, as well as in an application of the definitions of multidisciplinary and interdisciplinary to that development. In addition, analysis of the implications of each approach within higher education demonstrates

that neither offers the most pragmatic and sustainable way to teach emergency management.

FOUNDATIONS OF EMERGENCY MANAGEMENT AS A FIELD OF STUDY

As many as thirty academic disciplines[9] have been involved in studying how humans create, respond to, and cope with hazards, vulnerabilities, and disasters. Most scholars associated with emergency management, however, consider sociology and geography to be the foundations of disaster and hazards research.[10] Indeed, the knowledge generated by these two disciplines is primarily what students now study in EM Hi Ed programs, and the contributions of sociologists[11] and geographers[12] to that field of study have been extensively documented. Therefore, to understand emergency management in higher education today, one must first understand the development of disaster studies and hazard studies through the disciplines of sociology and geography. As the following discussion shows, these two areas of study originated separately within the fields of sociology and geography and developed through different approaches; however, they eventually converged to create a new, specialized body of knowledge.[13]

Sociology

Disaster as a topic of study grew out of sociology in the 1950s and 1960s because of the Cold War and the interests of funding institutions.[14] Military and civil defense organizations provided research funding to determine how citizens would react in a natural disaster and how to exert social control over them, if warranted.[15] This type of research was supported on the premise that findings related to individual, collective, and organizational behavior in natural disasters could be extrapolated to nuclear attacks.[16] Hence, sociologists' early forays into disaster research took on an applied focus or problem-solving orientation: the intent was not to learn about response to disasters per se but, rather, to learn about behavior.[17]

Sociologists found that their initial work on disaster response fit nicely within the boundaries of the discipline of sociology. In describing the close relationship between sociology and the study of behavior in disasters, Thomas Drabek notes, "Most would agree that the focus of the discipline is the study of human interaction. Hence, when disaster strikes, sociologists have asked, 'how do humans respond?' ... This has been the key question that defined the sociological research agenda."[18]

In pursuing disaster research, sociologists found that sociological theory and methods were useful to their work. According to E. L. Quarantelli, "the applied orientation was married to basic sociological conceptions and ideas, although neither the research supporters nor the researchers were very aware of it at the time."[19] They initially approached disaster research with the concepts, theoretical frameworks, and methodologies of sociology.[20] They applied concepts such as roles[21] and norms[22] in their investigations of disaster behavior. They explicitly or implicitly applied theoretical frameworks associated with sociology, such as structural functionalism/systems theory[23] and symbolic interactionism/social constructionism,[24] in their data analysis. Kathleen Tierney and colleagues contend that a systems theory, event-based approach dominated disaster research in sociology.[25]

The classical theoretical approach to the study of disasters, which blends functionalism and social systems perspectives and looks at disasters as discrete events, seems to have been adopted not so much as the result of conscious choice on the part of researchers, but rather because of the prominence of systems theory at the time the field was developing and the perspective's compatibility with the research methods that were commonly employed in the field ...[most of which] has been organized around case studies of disaster events.[26]

As the study of disasters progressed, however, sociologists became increasingly less likely to state the theoretical frameworks underlying their work[27] and to link their findings to general theory in sociology.[28]

As Tierney describes it, "theoretical concerns generally took a back seat to practical ones."[29]

The movement of disaster researchers away from a traditional sociological orientation appears to have coincided with the desire to solve social problems[30] and the recognition that both collective behavior and organizational response to disasters were related to factors typically studied outside the discipline (e.g., risk perception = psychology; political will, policy, and laws = political science; characteristics of hazards and spatial distribution of hazards = geography, etc.). Disaster-related research increasingly took sociologists outside the traditional purview of sociology[31] as they explored methodologies outside of the discipline[32] and spent considerable time in multidisciplinary settings.[33] For example, Drabek states that he "borrowed or invented the methods necessary to pursue [his research question]."[34]

By the turn of the twenty-first century, many of those examining the development of the study of disasters within the field of sociology no longer saw sociology as the discipline guiding the work produced. As Quarantelli remarks,

Unfortunately, a great deal of what sociologists (including us) do in the disaster area is not sociology at all—in fact, it is sometimes very difficult to identify the work in any disciplinary terms since it lacks, at least explicitly, any of the assumptions, models, theories, hypotheses, concepts, linkages to the non-disaster literature, etc. that is the corpus of present day sociology or any other science.[35]

Indeed, very little of the work being done by sociologists was integrated into the general body of sociological theory. Part of the reason that findings and theories related to disasters were not being integrated into sociology is that it had become increasingly difficult to do so. According to Robert Stallings,

The sociology of disaster is littered with theories of the middle range. There are theories about how organizations adapt, about

how individuals process warnings, about how communities recover, and so forth. These are "stand alone" theories. Integrating them with general sociological theory has proven difficult.[36]

Sociological theory and methods may have provided the basis for disaster research, but the findings and theory generated as a result no longer fit neatly within sociology and thus was not serving the discipline through its incorporation into the cumulative body of knowledge. The generated findings and theory did not have a disciplinary home, but they did provide a partial foundation for one: emergency management.

Geography

The development of hazard studies within geography evidences a similar pattern to that of disaster studies within sociology.

Geographers' work related to hazards preceded that of sociologists in disasters. Alexander notes that natural hazards had been a topic of study in geography since the discipline first formed; he states, "As spatial variation is a fundamental aspect of natural hazards, extreme phenomena have long been a fruitful subject for geographical study."[37] Although most geographers trace the origins of natural hazards research to Gilbert White's 1945 dissertation on human adjustment to living in floodplains,[38] geographers had been working for decades to articulate the spectrum of natural hazards and their characteristics as well as the distribution of hazards, hazard events, and hazard impacts.[39] According to Susan Cutter, geographers are naturally interested in "the geographic dimensions of hazards—where they occur, why they occur where they do, who is and which places are most vulnerable."[40] The assumption underlying the earliest research was that nature is responsible for hazards and the losses suffered from them. As Alexander puts it, "For most of the twentieth century, the root causes of casualties and destruction in hazards geography were deemed to be natural forces, not human vulnerability and the effects of decisions concerning the use of natural environments."[41]

A change in geography's approach to the study of disasters began when a group of geographers received funding to investigate land use in flood plains.[42] White and the students he mentored (e.g., Robert W. Kates, Kenneth Hewitt, and Ian Burton) approached their research with the human ecological approach, which "views hazard vulnerability as the product of the joint functioning of a natural events system and the human use system."[43] After their initial project, empirical work related to hazards became popular within the discipline and took off in a decidedly new direction.[44]

Hazards geographers became "progressively more human and less physical"[45] in the latter half of the twentieth century. John Cross writes that "although half of the earliest hazards dissertations were oriented toward an examination of the physical aspects of a hazard, those taking a social perspective, as proposed by White looking at human adjustments, mitigation measures, or social consequences have greatly outnumbered physically oriented hazard dissertations since the 1960s."[46]

As geographers increasingly examined hazards from the human ecological standpoint, they found that understanding human interaction with hazards required the input of more than one discipline. They, like sociologists, began to step outside of the traditional purview of their discipline. Participating in multidisciplinary and interdisciplinary research projects and policy forums, geographers collaborated with psychologists, engineers, economists and others on research related to hazards.[47] By the late 1980s, the field of hazards research was likened to

a rapidly growing tree. The roots are spreading out to draw upon an increasingly large number of disciplines for inputs that enable the trunk to send out many new branches in the form of specialized research institutions and specialized fields of inquiry.[48]

In their collaboration with other disciplines, geographers increasingly used the theoretical tools of other disciplines. For example, as James Mitchell noted in 1989, "Researchers have begun to explore the

utility of various theoretical perspectives including conflict theory, catastrophe theory, structuralist-materialist viewpoints, and humanistic explanations."[49]

Convergence of the Fields

As the discussion thus far has illustrated, geographers initially pursued the study of hazards as separate and apart from the sociologists' study of disasters even though both groups of scholars were working on different issues within the same subject area. Keith Smith succinctly summarizes the different approaches of the two disciplines:

Hazards research was fragmented amongst many academic disciplines (Alexander 1997). Mileti et al. (1995) grouped these theoretical perspectives into two main camps. Most physical scientists continued with an agent-specific hazards-based approach using a wide variety of technical solutions plus the non-technical responses derived from human ecology. In contrast, social scientists, such as sociologists and anthropologists, drew on the structuralist paradigm ... and adopted a cross-hazard, disaster-based view of failings within social systems and the need to improve human responses to all types of mass emergency ... .[50]

As sociologists and geographers increasingly stepped out of their disciplines, the distinctions between the research each group was doing began to disappear. Where once geographers looked at the conditions that created disasters and sociologists looked at how humans behaved in or responded to disasters, now both were examining issues that had initially been the intellectual territory of researchers in the other discipline:

In the early years of systematic hazard and disaster research, geographers and sociologists established a division of labor that temporally bracketed the disastrous event—geographers focusing on the decisions that led to the creation of hazard, with sociologists

looking principally at the organizational aspects of responding to the impact of the hazard agent—the disaster. This temporal bracketing was not rigidly exclusive, of course, but over time became even less so. For example, sociologists looked at pre-disaster preparations, while geographers studied post-event evacuation.[51]

More and more, the boundaries between hazard studies and disaster studies began to disappear. Cutter notes that

Geographers and geologists were primarily interested in hazards, whereas sociologists captured disasters as their intellectual domain. However, as the nature of hazards, risks, and disasters became more complex and intertwined and the field of hazards research and management more integrated, these distinctions became blurred.[52]

As the distinctions between the two areas of study faded and the theoretical frameworks underlying the work being produced were not easily located within one discipline or the other, sociologists and geographers associated with the study of hazards and disasters were less able to integrate their findings and theory into the general theory of their respective disciplines. Commenting on the implications of this trend for the sociology of disaster, Russell Dynes and Thomas Drabek note that it "does not necessarily mean that research will contribute automatically to the basic theoretical issues within the discipline nor will the sub-field necessarily find the discipline to be a fertile source of ideas for understanding the human side of disasters."[53]

Even while recognizing that the findings and theory being produced in disaster and hazard studies could not be easily integrated back into the general theory of sociology or geography, academics associated with those areas of study began to compile and integrate findings from the range of hazard and disaster studies. In 2001, Tierney and colleagues noted that "the differences that previously existed between the hazards and disaster research traditions have broken down as researchers have begun to develop more comprehensive perspectives

that consider both disaster events and the broader structural and contextual factors that contribute to disaster victimization and loss."[54]

That something new and different was happening is further substantiated by Dynes and Drabek, who noted the growing distance between sociologists studying disasters and their sociologist colleagues:

> The research problems and emphases in the sociology of disaster are increasingly becoming alienated from "mainstream" sociology.... Those interested in applied fields are increasingly alienated from their local colleagues and more comfortable with their extended research networks which are international in scope.[55]

Recognizing this widening gap between disaster researchers and sociology, Kathleen Tierney, a high-profile sociologist, even went so far as to call disaster researchers back to their disciplinary roots: "Disaster researchers must stop organizing their inquiries around problems that are meaningful primarily to the institutions charged with managing disasters and instead concentrate on problems that are meaningful to the discipline."[56]

Thus, a progression occurred—from two separate disciplines engaging in two areas of study with two different approaches; to separate research ventures on related topics that produced valuable findings and theory; to a realization on the part of both disciplines that neither could fully approach the subject area without the contributions of the other; and, finally, to the understanding that the work that had been produced both separately and jointly fit with neither discipline. This process ended with a significant body of related work that, when combined, was not distinctively sociology, geography, or any other discipline but something entirely new.

EMERGENCY MANAGEMENT: AUTONOMOUS, MULTIDISCIPLINARY, OR INTERDISCIPLINARY?

Emergency management in higher education is based on this "something new," or the cumulative work produced by sociologists, anthropologists, and many other disciplines. The knowledge produced by sociology and geography is being or has already been integrated into textbooks and/or the curriculum of EM Hi Ed programs.[57] Review of both the textbooks and curriculum taught at one university, North Dakota State University (NDSU), reveals that what emergency management students are studying can be described as "how human beings create, interact with, and cope with hazards, vulnerabilities, and the events associated with them."[58]

The purview of emergency management certainly intersects with topics that other disciplines are currently researching; thus, the findings and theory generated by those disciplines will have to be integrated into the emergency management literature. Furthermore, as the consensus among academics associated with emergency management demonstrates, the complexity of the topic demands continued work from more than one discipline; many disciplines have the potential to make significant contributions; and knowledge related to the field of emergency management will only benefit from continued research in other disciplines. But does the intersection of emergency management with other disciplines necessarily mean that emergency management is not a discipline itself? Or that it has to be multidisciplinary or interdisciplinary in higher education?

When the definitions of each disciplinary approach are applied to the historical development of research in the subject area, support is found for the argument that emergency management is not yet an autonomous discipline but it is well on its way to becoming one. Despite being closely related, the terms *multidisciplinary*, *interdisciplinary*, and *discipline* represent three different approaches to research and teaching in higher education. For example, *multidisciplinary* has been defined as follows:

- "Research, problem solving, or training that mingles disciplines but maintains their distinctiveness."[59]

- "Research that involves more than a single discipline in which each discipline makes a separate contribution. Investigators may share facilities and research approaches while working separately on distinct aspects of a problem."[60]

- "What happens when members of two or more disciplines cooperate, using the tools and knowledge of their disciplines in new ways to consider multifaceted problems that have at least one tentacle in another area of study."[61]

When applied to the historical development of research in the area of emergency management, these definitions fit best with the early work done on hazards and disasters. While this paper has used the development of the subject area within sociology and geography as examples, academics from disciplines as diverse as public administration, political science, geology, meteorology, communications, economics, anthropology, engineering, mathematics, and psychology have all applied the theory and methodology of their respective disciplines to the intriguing study of disaster and associated phenomena throughout the latter half of the twentieth century. Most research was done by individuals from various disciplines who had an interest in the subject, and in some cases, individuals from different disciplines worked together to conduct research on different aspects of the same research question.

Interdisciplinary research and higher education programs are quite different from multidisciplinary research and programs. Dawn Youngblood even suggests that interdisciplinary research and teaching require the preexistence of multidisciplinary work in a subject area.[62] Academics who advocate interdisciplinarity envision the approach as more integrative than the multidisciplinary approach. Definitions of *interdisciplinary* include

- "The juxtaposition and interpenetration of seemingly autonomous and free-standing fields of inquiry."[63]

- "A curriculum organization which cuts across subject-matter lines to focus upon comprehensive life problems or broad areas of study that bring together the various segments of curriculum into meaningful association."[64]

- "Teaching, learning, research, or problem solving that integrates several disciplines to create a unified outcome that is sustained and substantial enough to enable a new discipline to develop over time."[65]

- "A mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice."[66]

The definitions of *interdisciplinary* appear to fit the interaction between geographers and sociologists as they progressed in their study of hazards and disasters. As the historical development of the subject area makes clear, integration of the concepts, theoretical components, and methodologies used by the two disciplines working in the area of hazards and disasters was an important step. As has been noted, sociology and geography had to abandon the temporal, methodological, and conceptual divisions between them as they related to the study of hazards and disasters. In so doing, the study of hazards and disasters evolved from a multidisciplinary approach to an interdisciplinary one. To be sure, multidisciplinary study continued among the many diverse disciplines interested in the subject area, but interdisciplinary work was increasingly undertaken to better understand the complex subject matter. The product of that work is now used to ground teaching and curriculum in EM Hi Ed programs.

To say that emergency management was born out of multidisciplinary and interdisciplinary research is not the same as saying that it

should be presented as multidisciplinary or interdisciplinary in higher education programs. As the following discussion makes clear, multidisciplinary and interdisciplinary approaches have different implications for research and higher education programs, and those implications make clear that neither approach is particularly pragmatic or sustainable for emergency management going forward.

The multidisciplinary approach has both negative and positive implications for research and higher education. Julie Younglove-Webb and colleagues noted a number of issues in multidisciplinary research, including disciplinary chauvinism, different world views, status differences among team members, logistical and geographic obstacles, as well as differences in work styles, levels of analysis, gender perspectives, goals, visions for the project, and audiences they hoped to impact.[67] Yet despite these issues, there can be significant benefits from multidisciplinary research.

Disciplines have developed powerful paradigms, theories, and methodologies designed to explain and predict the range of phenomena within their disciplines purview.[68] And when multiple academic disciplines apply their disciplinary tools to different aspects of a research question, a layered and rich understanding of the phenomena in question can result that would not have been achieved had any one discipline conducted the research alone.[69] As Quarantelli argues:

At least multi as over against interdisciplinary research does not completely forego [sic] the advantages of looking at phenomena from a particularly disciplinary perspective. Overall, the issue is not a matter of maintaining territorial boundaries or making a claim for the supremacy of some disciplinary, explanatory approach. Rather, it is that a disciplinary perspective allows one to see much and brings with it a depth of understanding that is otherwise not possible. The division of labor among the sciences, social ones included, exists because it is worthwhile and valid and not just because of the historical traditions of different disciplines or their intellectual conservatism.[70]

These benefits of multidisciplinarity for research do not necessarily translate to multidisciplinary higher education programs; there are, however, other benefits. Faculty are easier to find because they can Potentially maintain teaching responsibilities in more than one department, teach from the disciplinary framework in which they were educated, and research and publish within the purview of their discipline.

Still, while institutions of higher education and faculty may find multidisciplinary programs relatively easy to coordinate, students do not always find the programs easy to navigate.[71] Although students are able to get a taste of many different disciplinary approaches, there tends to be little synthesis across disciplinary perspectives related to the nature of the program of which they are a part.[72] Research has found that students find it difficult to apply the knowledge they have learned.[73] Even while the knowledge now used in EM Hi Ed programs was developed initially through multidisciplinary research, research-ers recognized that they needed to adopt an interdisciplinary approach. Multidisciplinary research will still certainly continue as many disciplines have an interest in the subject matter within the scope of emergency management. Students and researchers associated with EM Hi Ed programs may also engage in multidisciplinary research. But that is not the same as approaching higher education from a multidisciplinary perspective.

A multidisciplinary rather than traditional approach to degree programs in emergency management would not be wise given the drawbacks already associated with it. For instance, how would core knowledge be communicated in a multidisciplinary program? The body of knowledge that one has to absorb to be competent in emergency management is vast, specialized, and separate from any one other discipline. While individual classes taught by scholars of a given discipline (e.g., public finance or public health) undoubtedly enhance an emergency management education, it would be a mistake to assume that taking a number of such classes is the same as receiving an emergency management education (even if such courses were complemented by one or a few "core" courses in emergency management). Classes

taught from a specific disciplinary perspective other than emergency management do not necessarily focus on emergency management or even on issues relevant to emergency management, nor are they necessarily comprehensive in their coverage of emergency management-related literature (as opposed to the literature developed within their home discipline as relates to emergency management). How would students be able to synthesize the information and material presented in diverse classes into a unified whole and then apply it in practice upon graduation? As has been maintained throughout this paper, a variety of academic disciplines have contributed and will continue to contribute to the study of emergency management. Yet, as David McEntire states, "As important as these disciplines have been and are to emergency management, the research emanating from them may not always capture all types of disaster phenomena."[74] Students deserve a comprehensive education that prepares them for the realities associated with their jobs, the context in which they will operate, and the science that explains emergency management phenomena, and the field needs students educated in such a manner.

Additionally, emergency management needs to continue to develop and maintain both an academic and a professional identity;[75] It can be argued that multidisciplinary programs curtail that development. Commenting about their research on multidisciplinary education in health programs, Anne Pierrie, Sheila Hamilton, and Valerie Wilson state, "This need to maintain a professional identity, standards and value systems is a theme that pervades much of the data. To varying degrees, course organizers and students [see] this as conflicting with the perceived drive to 'go multidisciplinary.'"[76] The multidisciplinary approach can thwart the development of EM Hi Ed's identity; and pursuit of this approach would be risky considering the challenges already facing EM Hi Ed in terms of internal and external validity.[77] Certainly, well-designed, well-funded, and well-managed multidisciplinary programs can ensure that students are sufficiently educated in emergency management. We know, however, that not all EM Hi Ed programs meet these criteria. According to Carol Cwiak, faculty,

funding, student recruitment, changing course material, and institutional support are the top five challenges facing higher education programs.[78] Furthermore, with the current diversity in EM Hi Ed programs (i.e., variety of degree programs, concentrations in degree programs to/courses, status of faculty [e.g., full-time vs. devoted to emergency management, doctoral degree or less than a doctoral degree], and institutional, financial, and administrative support), it is unlikely that all programs will be able to implement a multidisciplinary approach successfully, much less equally.

Turning to the implications of an interdisciplinary approach for research and education, an integrated approach to research has the potential to produce findings that are useful to the disciplines involved as well as to practice and policy. McEntire suggests that the benefit of interdisciplinary research lies in the ability of findings to move beyond simplistic descriptions of phenomena, provide explanations that are rarely self-evident."[79] And since funding to pursue interdisciplinary research is increasingly available (and sometimes required) through funding institutions such as the National Science Foundation,[80] interdisciplinary work has been increasingly pursued. Of course, as James Collins states, "Regardless of what organizational structure a department uses to support its programs, two key elements for future success will be low barriers between it and other units, and institutional flexibility."[81]

Such barriers to interdisciplinary research are often present. The National Research Council (NRC) cites additional common obstacles to the implementation of interdisciplinary research, including "lack of funding, indifference or hostility on the part of researchers, and incompatibility with academic incentive and reward structures."[82] Robert Naiman suggests that major pitfalls in interdisciplinary research include

the time necessary to learn about other disciplines and their vocabulary, … [the fact that] not all team members are of the same intellectual caliber …, the challenge of actually organizing and

performing the work. ...[and] the commitment of time and energy into understanding other disciplines [which] invariably detracts from the time and commitment put into maximizing one's own mastery of a single discipline.[83]

And Sherry Glied and colleagues have found that issues related to "fiscal sustainability, recruiting and retaining faculty, and leadership sustainability" are often impediments to interdisciplinary research.[84]

As with interdisciplinary research, success in interdisciplinary higher education programs is conditional. Joe Furner notes the necessary conditions for interdisciplinary programs: "1) Two or more teachers are involved; 2) All teachers share common planning time; 3) All teachers share the same students; 4) All teachers are skilled in professional collaboration, consensus building, and curriculum development; 5) Students know how to behave and work in an interdisciplinary environment."[85] Without these conditions, according to Arthur Applebee and colleagues, the result might be "distortions in the curriculum, with some kinds of knowledge and skills, or even whole subject areas, being shortchanged within the interdisciplinary mix" and "a great deal of improvisation with both the strengths and weaknesses that that implies."[86] Mary Adler and Sheila Flihan suggest that there is significant agreement among scholars about the conditions required for successful interdisciplinary educational programs,[87] such conditions include planning, training, funding, external support, collegiality and shared beliefs among involved staff and administration, and conducive organizational structures.[88] The degree to which these conditions can be met is highly variable.[89] The NRC discovered that institutions claiming to have interdisciplinary programs were often interdisciplinary in name only and implemented as "piecemeal and incoherent policies rather than systematic reforms."[90]

Opportunities for interdisciplinary research related to the subject matter of emergency management should certainly be pursued. The benefits of the approach have already been seen as the field of emergency management evolved out of interdisciplinary work; however, the

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Interdisciplinary approach to education is extremely difficult to accomplish and arguably (as the preceding discussion should have demonstrated) somewhat unnecessary. There is a large body of knowledge that explains a wide range of phenomena within the scope of emergency management that was born out of both multi- and interdisciplinary work over time but is now taught as something distinct and discrete.[91]

Because multidisciplinary and interdisciplinary approaches to Hi Ed programs are unrealistic, the alternative—a traditional academic discipline approach—should be pursued. While few academics associated with emergency management have suggested that the field should be perceived as a traditional academic discipline, there is ample evidence that the typical progression beyond interdisciplinary study has already occurred. As Michael Davidson states, there has been the "collapse of academic borders and the emergence of a new discipline."[92] Donald Beggs defines disciplines as "a body of knowledge or branch of learning characterized by an accepted content and discipline."[93] Emergency management certainly meets this definition; it also reflects domain and history, two of Arthur Foshay's characteristics of a discipline, which he defines as

a domain, an area of human experience, or an area of phenomena for which the person in the discipline takes responsibility, second, as a set of rules that has to do with how truth is established and how truth is conceived of as stated within the discipline, and third, as having a history that may be described and that presumably, ought to be known.[94]

Emergency management also meets some of the additional characteristics of a discipline posited by Martin Davies and Marcia Devlin: the presence of a community of scholars; a tradition or history of inquiry; a mode of inquiry that defines how data is collected and interpreted; defining the requirements for what constitutes new knowledge; [and] the existence of a communications network."[95] Emergency management has the presence of a community of scholars from a variety of

academic disciplines working in the different academic departments that house EM Hi Ed programs. Looking into the very near future, emergency management will also have its own "home-grown" community of scholars. As of this writing, doctoral degrees in emergency management have been awarded to five students at NDSU, and doctoral degree programs in disaster science and management and in fire and emergency management administration are well under way at the University of Delaware and the University of Oklahoma at Stillwater, respectively. The existing community of scholars and the new, upcoming cadre of doctoral degree holders in emergency management are capable of guiding emergency management as a discipline.

Emergency management also boasts another of Davies and Devlin's disciplinary characteristics: the existence of a communications network. It has a variety of journals (e.g., *International Journal of Mass Emergencies and Disasters, Journal of Homeland Security and Emergency Management, Disasters, Disaster Prevention and Management, Journal of Emergency Management,* and *International Journal of Emergency Management*) through which scholars communicate the findings of their research on issues related to emergency management practice or study. Moreover, students and academics associated with EM Hi Ed programs now have the opportunity to connect and communicate with peers at several annual conferences, including FEMA's Higher Education Conference. And virtual communication is now being facilitated through the use of electronic mailing lists (e.g., FEMA Hi Ed Project's weekly "Bits and Pieces") and social media (e.g., the Emergency Management Higher Education Community group on Facebook). Clearly, the community associated with EM Hi Ed programs is engaged in regular communications in various forms and forums.

CONCLUSION

At first glance, emergency management does not appear to embody all the characteristics described by either Davies and Devlin or Foshay. For instance, it has yet to define how new knowledge is created and how data are collected. Yet it is still well on its way to

achieving disciplinary status. As this paper has shown, emergency management reflects several of the characteristics of a discipline, including a tradition of inquiry/history; a defined domain, a considerable body of knowledge, a community of scholars, and communication networks. The academic community associated with emergency management will have to make a concerted effort to shape the discipline in the future, construct the missing disciplinary components, and, most importantly, support the disciplinary approach to emergency management across the campuses that currently have EM Hi Ed programs. The vision of emergency management as a discipline, what it should look like in higher education, how it should relate to the practice of emergency management, and the steps that are required to fulfill the vision have been discussed.[96] Achieving that vision will certainly be challenging; yet the potential benefits (e.g., sustainability, funding, institutional support, student recruitment and retention, faculty) far outweigh any costs.[97]

To say that emergency management is, or is soon to be, a discipline in and of its own right is not to say that the discipline will not share its subject matter with other disciplines, engage in multidisciplinary and interdisciplinary research endeavors, or co-opt the literature and theory of other disciplines to explain phenomena within the purview of emergency management. As Youngblood states, "No discipline is an island entire in itself. That is to say, disciplines are by no means discrete entities—they necessarily overlap, borrow, and encroach upon one another."[98] The field of emergency management will always be shared with other disciplines and will always benefit from their contributions. Furthermore, the subject is important enough, and there is ample room for everyone to participate.

Multidisciplinary study must continue, and opportunities for interdisciplinary work must be pursued. However, if either approach is pursued exclusively, EM Hi Ed programs may not only fail to educate students in the complex subject of emergency management but also fail entirely. Failure cannot be seen as an option nor does it have to be. Not only is emergency management poised to be a discipline in

and of its own right, but its pursuit of disciplinary status may also be the most pragmatic and sustainable option for faculty, students, intuitions, and funding.

Endnotes

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3

Critical Incident Stress Management (CISM): A Program to Address Issues of Secondary Traumatization among Disaster Workers

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DURING THE COURSE OF DISASTER work, disaster workers encounter stressful situations that evoke unusually strong emotional reactions. Their emotional equilibrium is further compromised by their interactions with disaster victims as they experience feelings of countertransference (identification with the victim).[1] Additionally, that longer workdays and extended workweeks without sufficient break, and their ability to cope can decrease dramatically. Collectively, these impacts are known as "secondary traumatization." While several other terms can be found in the research—for example, "compassion fatigue," "secondary victimization," "secondary traumatic stress," and "vicarious traumatization"—"secondary traumatization" best conveys this phenomenon within the field of traumatology.[2] A review of the mental health literature reveals that all disaster workers experience some degree of stress and that efforts to address their psychological needs have been increasing.[3]