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Core Competencies for Undergraduate Community-Engaged Researchers

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Abstract
Undergraduate community-engaged research (UCEnR) is a growing trend which VCU has proactively pursued by providing grants for UCEnR projects and assimilating UCEnR into interdisciplinary curricula. However, a definitive sense of core competencies for undergraduate community-engaged researchers has not yet been established. To that end, this literature review answers the question, "What skills should UCEnR students have?"

Keywords
community engaged research, community engagement, community, higher education, Virginia Commonwealth University, online learning, undergraduate research

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Core Competencies for Undergraduate Community-Engaged Researchers

A Literature Review

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Core Competencies for Undergraduate Community-Engaged Researchers

As Virginia Commonwealth University (VCU) continues to enhance its capacity for community-engaged research (CEnR), it becomes increasingly important to fully conceptualize and operationalize expectations and requirements for undergraduate community-engaged researchers. Community-engaged research is "a collaborative process between the researcher and community partner that creates and disseminates knowledge and creative expression with the goal of contributing to the discipline and strengthening the well-being of the community" (VCU, 2013a). Virginia Commonwealth University is recognized as a community-engaged institution by the Carnegie Foundation, and is one of only 54 universities that the Carnegie Foundation has designated as "Community Engaged" with "Very High Research Activity" (VCU, 2016).

Virginia Commonwealth University offers research-driven programs at the graduate and doctorate level, and opportunities for CEnR within graduate and doctorate courses; undergraduate research is confined to inter-disciplinary studies and fellowship/scholarship programs, with more limited opportunities for CEnR. Undergraduate community-engaged research (UCEnR) is a growing trend which VCU has proactively pursued by providing grants for UCEnR projects and assimilating UCEnR into interdisciplinary curricula. However, a definitive sense of core competencies (CC) for undergraduate community-engaged researchers has not yet been established. Establishing and measuring CC would be an important step in holding students accountable for growth as community-engaged researchers, and in measuring VCU's performance in training community-engaged researchers.

Many scholars have detailed the benefit of CEnR in the undergraduate setting. Kravetz (2004) explains that UCEnR can expose undergraduate students to the practical value of research in the community. Dunbar, Terlecki, Watterson, & Ratmansky (2013) conducted a student focus group to evaluate the effectiveness of UCEnR and found that all students had increased awareness of community issues. Lane (2014) found increased

student competence following an UCEnR project. Lopatto (2010) enumerates many benefits for practicing UCEnR, including students' better preparation for more advanced research and a variety of interdisciplinary skills. Matthews (2012) found that UCEnR increased students' engagement with the university. These findings all emphasize the importance of establishing CC to ensure that the impact of UCEnR is maximized for the institution, the community, and the student.

Core Competencies: Unpacking the Terminology

A student participating in UCEnR will need a variety of skills, including *community-engagement* skills and *research* skills. Notably, these are two separate skill sets. Combined, a comprehensive list of *community-engaged research* skills would be a list of CC for UCEnR. As of February, 2016, a formal CC list for UCEnR has not been established. In order to establish a comprehensive list of *research* skills, this literature review looked at scholarly insight regarding basic research skills (BRS), which are skills that can be converted into any academic field at any academic level (Gilbert, Balatti, Turner, & Whitehouse, 2004). To compile a comprehensive list of *community-engaged* skills, this literature review will look to various sources of knowledge, including: research related to best practices for UCEnR; research related to learning outcomes for UCEnR; research related to learning outcomes for service-learning; CC for community-engaged scholarship (CES); and institutional expectations for community-engaged researchers and scholars.

Core Competencies, Best Practices, and Learning Outcomes

The term "core competencies" is used broadly in the academic community, but is rarely specifically defined. The term originated from the academic field of business analysis, wherein the prevailing strengths of an organization were explored in order to identify competitive advantages (Prahalad & Hamel, 1990). The term has since been translated by universities to summarize "the set of skills and abilities that are the source of the more

visible and identifiable strengths" (Morrill, 2010). In other words, CC are the skills that must be the most prominent in order to successfully complete a given task.

In order to determine CC for UCEnR, the question is posed, "What skills should UCEnR students have?" In order to answer this question, two other questions must first be answered: "What are UCEnR students expected to do?" and "What are UCEnR students expected to learn?" The answer to the first of these two questions would essentially be a list of best practices. Similarly to the term "core competency," the term "best practice" is broadly used throughout the academic community but rarely defined. The Cambridge Dictionary defines a best practice as "a working method or set of working methods that is officially accepted as being the best to use in a particular business or industry, usually described formally and in detail" (best practice, n.d.). In this context, best practices are essentially guidelines for effective UCEnR. However, in a budding industry such as CEnR, different universities and scholars may officially accept different sets of working methods for CEnR. Oftentimes, an official list of best practices is not fully in place; this is a serious mistake if an organization is looking to canonize its knowledge, and "know what it knows" (O'dell & Grayson, 1998). Ultimately, this literature review compiles various lists of best practices to identify common themes.

In order to answer the second question, "What are UCEnR students expected to learn?" this literature review has compiled research related to learning outcomes of UCEnR. Learning outcomes are closely monitored by many universities. Virginia Commonwealth University (2013a) defines student learning outcomes as "statements of what students will know, understand, or be able to do at the end of a course or degree program. [Learning outcomes] provide focus and direction for teaching and learning and they are the basis for assessing student learning at the course, program, and institutional levels." Learning outcomes for UCEnR have been assessed on a national level, but not specific to VCU.

It is important to understand that best practices and expected learning outcomes provide insight into CC, but they are not equivalent. While a student may be educated in best practices, CC would monitor a student's ability to deploy best practices. For example, a best practice might be for students to reach out to community leaders, and the corresponding measurable CC would be the student's confidence and capabilities in doing so.

Similarly, an expected outcome is not the same as a competency; an outcome can be expected, but a competency must be demanded. To imply that a field requires competencies is to imply that the field contains components that are absolutely necessary in the student development process. Currently, students studying CEnR are *expected* by the university to gain skills they can translate to their original field accordingly; universities instead would have to *demand* that students attain certain skills to consider them eligible to conduct CEnR. Such a shift in focus might require universities to reconsider the function of CEnR.

Currently, CEnR faces numerous obstacles in an institutional setting, including cultural, economic, and logistical obstacles to implementation (Totten, 2011). These issues are confounded by the fact that research assessing the product and impact of CEnR is significantly lacking; scholars often discuss CEnR as it relates to the *student*, but not the *community*. Despite the student benefits of UCEnR, achieving a positive impact on the environment is often stifled by various constraints specific to the undergraduate experience, such as time, resource, and staffing constraints (Kravetz, 2004).

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By ways of compensation, research shows how UCEnR prepares students to make positive change within the community in their future careers, regardless of the change they were able to affect during their time conducting UCEnR (Moely & Ilustre, 2014; Matthews, 2012). In other words, the effect of UCEnR on the

community cannot always be measured by evaluating the direct effect on the community; instead, the effect of UCEnR on the community can also be measured by the presence of learning outcomes that will prepare students to make future contributions. In this way, implementing CC for UCEnR may be a step forward in holding students accountable for developing traits that will be necessary for making positive change in their future careers.

CEnR and Service Learning

Learning outcomes from service-learning are often considered to be similar to learning outcomes from CEnR (Lichtenstein, Thorme, Cutforth, & Tombari, 2011). According to VCU's Statement of Service Learning, service-learning is "an organized service activity that meets community-identified needs" (Pelco, 2014). In this way, service-learning shares similar goals and student outcomes to CEnR. Considering these factors, research related to learning outcomes for service-learning are critical in a discussion about CC for UCEnR. Community-engaged research as a tool to be used and studied is a concept in very slow development, with theoretical roots in the 1950's and 1970's but without traction until the 1990's (Strand et al., 2003). In contrast to the small amount of research related to CEnR, copious studies have explored the effectiveness of service-learning on student learning in various fields. This contrast is likely because CEnR in general is typically thought to be a subset of service-learning (Lichtenstein et al., 2011). However, such presumptions may run the risk of undermining the complexity of CEnR, which is beginning to emerge as an independent field of study at VCU.

While service-learning is a growing trend with empirical support, it is typically a tool integrated into any given curriculum and not a curriculum in itself. Similarly, UCEnR is typically considered a research method, as opposed to a field of study in itself (Lopatto, 2010). Granted, these two categories are not *necessarily* mutually exclusive. For example, a student may pursue a degree in Research and Evaluation Methodology, but such a pursuit is typically within an advanced degree program beyond the scope of Undergraduate studies. As of May, 2015, an ERIC database search, as well as a general internet search, reveals degree programs specific to the science

of CEnR remains exclusive to graduate and doctorate programs, and that information about CEnR is more generally available through pamphlets, workshops, and conferences.

CEnR and CES

While competencies specific to undergraduate community-engaged researchers remain undefined, competencies for advanced community-engaged researchers and have been defined by universities, accrediting institutions, and in research related to CES. Community-engaged scholarship is defined differently throughout the academic community, but is generally based on the principles established in a speech entitled "The Scholarship of Engagement," given by Ernest Boyer in 1996, then President of the Carnegie Foundation for the Advancement of Teaching. This speech asked that universities prioritize interdisciplinary research that is useful and shared with the community (Boyer, 1996). Virginia Commonwealth University (2013b) has adopted a similar definition of CES, stating that CES "addresses community needs through research, teaching and service in a mutually beneficial partnership."

Research related to CES has identified competencies which community-engaged scholars will need. While the full scope of competencies identified for community-engaged scholars may be too advanced for the expectations of undergraduate students, they illuminate fundamental concepts that apply to any community-engaged researcher or community-engaged scholar, such as the "ability to negotiate across community-academic groups and contexts," and the "ability to work effectively with diverse communities" (Doberneck, 2013).

Institutional Expectations

Insight into *community-engagement* skills can also be deduced from institutional expectations. Accrediting institutions and universities alike hold faculty accountable for providing certain services and producing certain outcomes. Two supposed purposes for such expectations are 1.) to ensure certain student capabilities are produced; and 2.) to ensure that certain community outcomes are achieved. In the case of CEnR, The Carnegie

Foundation asks that universities meet certain standards to prove that the faculty has sufficiently engaged in CES. By evaluating these standards, in tandem with university expectations for faculty, it is possible to deduce what student outcomes these institutions might expect. Meyer-Adams, Potts, Koob, Dorsey, & Rosales (2011) note that institutional expectations are an integral part of developing CC. Developing CC for students to evaluate themselves and to be evaluated by others is congruent with social cognitive theory, which emphasizes the importance of self-efficacy (Meyer-Adams et al., 2011).

Literature Search: Methods

The original task of this literature review was to identify CC for UCEnR. Once this proved unfruitful, the alternative strategy was to answer the subsequent questions: "What are UCEnR students expected to do?" and "What are UCEnR students expected to learn?" In order to answer these questions, sources for this literature review were found using the keywords core competence* / practice behavior / best practice / general skills / learning outcome AND undergraduate community-engaged research / undergraduate community-based research / undergraduate community engagement. Other keywords were "basic research skills," "undergraduate research skills," and "community-engaged scholarship." In general, if sources repeated information found elsewhere, then only the most cited sources were utilized. This inclusion criteria resulted in a much narrower range of cited literature.

The databases used for this review were: EBSCO Academic Search Complete, EBSCO Education Research Complete, ERIC, PsycINFO, PubMed, Social Work Abstracts, and Social Services Abstracts. Medical-based databases were included in order to capture studies related to the expected outcomes of service-learning, as service-learning is predominantly used in the medical field. However, only sources with the greatest generalizability and relevance were selected from these sources; for example, research focusing on an expected

growth in medical competencies were excluded from this study. Additionally, general internet searches were conducted to identify institutions practicing CEnR and CES, as well as organizations operating to advance the goals of CEnR. Thirty-three (33) sources were used in total for the final list of CC. Appendix E: Sources by Subject Matter and Type represents all of the sources utilized for this literature review. Appendix F: Core Competency Sources Categorized represents only the sources that were used to compile the final list of CC.

Literature Review: *Community-Engagement* Skills and *Research* Skills

Research Skills

Many scholars have worked to define, refine, and advocate for BRS (Arora, Mittal, & Pasari, 2011; Bromley, Boran, & Myddelton, 2007; Gilbert, Balatti, Turner, & Whitehouse, 2004 Pearson & Brew, 2002; Toledo-Pereyra, 2012). While BRS apply to the undergraduate experience, scholars and institutions have also developed a list of undergraduate basic research skills (UBRS) that are more specific to the expectations of an undergraduate student (Bauer & Bennett, 2003; Burgoyne, O'Flynn, & Boylan, 2010; Georgia Institute of Technology, 2005; Gray, Coates, Fraser, & Pierce, 2015; Hunter, Laursen, & Seymour, 2007; Lopato, 2009; Ozay, 2012; Russell, Hancock, & McCullough, 2007; SUNY Cortland, 2015; Willison & O'Regan, 2007; Wilson, Howitt, Roberts, Åkerlind, & Wilson, 2013). Appendix B: Basic Research Skills and Undergraduate Basic Research Skills synthesizes some of the most relevant knowledge regarding BRS and URBS.

While BRS have been adequately refined over the years, they are generally applied in a traditional research setting. A community-engaged researcher must be able to translate BRS into a community setting. In addition, community-engagement requires its own set of skills, such as interacting with community members and community organizations. A community-engaged researcher must remain flexible to effectively navigate a community setting and meet community needs. According to VCU's definition of CEnR as previously stated, a

community-engaged researcher would need to effectively weigh disciplinary needs with community needs to develop a mutually beneficial project. The discipline may be the field of medicine, engineering, or psychology (for example), but a competent community-engaged researcher would be able to assess, organize, and facilitate the research project in diverse community-institutional settings. The complexity of navigating such a setting speaks to the need for *community-engagement* skills in CEnR.

Community-Engaged Skills

Research related to best practices and learning outcomes for UCEnR provide great insight into the potential gain for undergraduate community-engaged researchers. Strand, Marullo, Cutforth, Stoecker, & Donohue (2003) have established a cohesive assessment of CEnR best practices. Bouhaimed, Thalib, & Doi (2008) studied learning outcome changes for public health students conducting UCEnR. Ryser, Markey, & Halseth (2013) suggest learning goals for UCEnR. Lichtenstein, Thorme, Cutforth, & Tombari (2011) conducted a nationwide literature review of UCEnR outcomes. Their review established the most cohesive assessment of the expected outcomes of UCEnR to date, identifying skills the student will acquire through UCEnR in any given setting. Appendix G: Learning Outcomes and Best Practices for UCEnR represents synthesis of the expected learning outcomes for service-learning as well as the perceived benefits, expected outcomes, and best practices of UCEnR according to theoretical guidance and empirical data.

As previously mentioned, CES and institutional expectations are also greatly insightful in identifying community-engagement skills. Appendix C: Core Competencies for CES represents CES skills and competencies as summarized by Doberneck (2013). However, for the purposes of identifying CC for UCEnR, only the most generalizable to the undergraduate context were selected for consideration as a CC.

Appendix D: Institutional Expectations for Student Learning Outcomes from CEnR represents student characteristics that may develop in accordance to the expectations established by universities and accrediting

institutions. This table has been adapted from the references listed to suit the purposes of this literature review; the original references only sought to catalogue the standards and expectations to which universities are held.

A Speculative Core Competencies List and Future Recommendations

Developing CC for UCEnR will have to be a synthesis of learning outcomes for UCEnR; best practices for UCEnR; learning outcomes for service-learning; UBRS; simplified competencies for CES; and institutional expectations of undergraduate researchers. Appendix A: Core Competencies for Undergraduate Community-Engaged Researchers illustrates such a synthesis, and thus posits a speculative list of CC. This list was structured such that each item on this list could be evaluated on a Likert scale by the student and the student's instructor or advisor, similarly to how the CC established by the Council on Social Work Education (CSWE) are implemented in the Master of Social Work program at VCU. However, the list could be implemented however best fits the program. Also, this list pends review by community-engaged scholars.

Scholars have catalogued, assessed, and refined UCEnR and service-learning student outcomes for students in various academic fields, and tested those outcomes across disciplines, as found in the national assessment by Licthenstein et al. (2011). However, as previously mentioned, learning outcomes are not equivalent to CC, thus CC remain to be tested. Additionally, little effort has been made to test learning outcomes for students who are specifically being trained in UCEnR. A complete vision of CC for UCEnR might not be possible until the current findings are cross-referenced with learning outcomes of students studying the best practices of CEnR. This proposed list of CC is also incomplete on account of its weakness in addressing research ethics. While research ethics have been studied extensively, there is less available information on research ethics specific to CEnR, and certainly less on UCEnR. This information may become available upon a pending revision to the Belmont Report specific to CEnR.

Ideally, students could be trained for best practices and enhanced CC in UCEnR, and would use these skills in their respective fields and careers. Core Competencies would be used as a guideline to measure learning and predict future success in CEnR. Long-term data would be necessary to determine whether these CC truly predict future success. However, they equate to a comprehensive starting point for students and professors to assess student progress. It is strongly recommended that this list of CC be refined and tested to ensure that the list contains only the most prominent skills of a successful undergraduate community-engaged researcher.

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Virginia Commonwealth University

Appendices

Appendix A: Core Competencies for Undergraduate Community-Engaged Researchers

Academic Skills:
Critical Thinking Skills:
demonstrates qualities of a critical learner and can assess and apply the information received
understands that scientific knowledge is open ended and constantly constructed
goes beyond facile answers to engage with the complexity of a situation
solves problems independently utilizing critical thinking
self-assesses skills and training needs, and develops a plan to address those needs
self-assesses academic learning, can communicate self-assessments to supervisors, and works to improve based on those self-assessments
understands theories, concepts, and connections between/within sciences
perceives relations and patterns
develops intellectual curiosity
reflects constructively on experiences and knowledge
readily identifies ambiguities and unanswered questions
demonstrates an understanding of academic content
Technical Skills:
utilizes technological capabilities to enhance the learning process, such as Blackboard, computerized analytic tools, simulation software, or internet databases
recognizes the potential of information systems in process and patient service improvement, actively promotes information system implementation
adapts to changing technology
demonstrates reading comprehension skills
Goal-Setting Skills:
engages in long-term goals to be achieved within the time in the program
maximizes the value of a unique educational and mentoring opportunity
takes responsibility and ownership for academic experiences and success
takes committed initiative
sets clear priorities and goals
is aware of the learning goals of each course and each program
is aware of ways to pursue further professional development in community engaged research

has an increased interest/enthusiasm for field
University Engagement:
understands the role of the student within the university
demonstrates ability to interaction with faculty
demonstrates increased interest in major
demonstrates increased interest in college
pursues internships and field experience
attends conferences or workshops for CEnS and is familiar with educational materials related to CEnS
understands the role of CEnS at the university and can interact with/approach staff who are engaged in CEnS
Research Skills:
General Skills:
demonstrates confidence in carrying out research
understands research concepts, methods, and practices
understands research methods across disciplines
tolerates obstacles faced in the research process
demonstrates readiness for more demanding research
demonstrates good research methodology and technical adroitness, including: collection and interpretation of data; preparation of tables; research paper writing; issuing recommendations; and implementing initiatives
demonstrates the ability to utilize university resources such as texts, archives, or databases
understands the importance of feasibility and reasonable scope
acts openly and considers ethical implications and subject appropriate guidelines, including: social accountability, conflicts of interest, publication practices and responsible authorship, identifying and mitigating research misconduct, research with human subjects, and research involving animals
has the ability to write progress reports on research of an appropriate professional standard
understands the research environment (e.g. ethics, intellectual property, funding, commercialization)
uses creativity to approach research and scientific problems
understands the importance of collaboration in the research process and research presentation
understands relevant university guidelines on research practice (e.g. ethical practice) and any statutory regulatory requirements in subject areas
Understanding of Research Relevance:
understands the importance of producing meaningful results, including: new information, ideas, interpretations or critical findings
understands the potential for research to alter policy or practice in a particular field
understands the importance of addressing identifiable social, economic, or environmental change, locally or internationally

understands the need for research to be relevant to field
understands the role of research within the institution
understands the connection between research and coursework
understands how research in a particular field is organized nationally in terms of institutions and centers, congresses, societies, publications, and funding sources and some understanding of these internationally
has the ability to place current issues in historical context
Literature Review Skills:
can locate, identify, and properly cite relevant literature
understands, analyzes, and evaluates literature, including hypotheses and methods in the literature
synthesizes and uses info from diverse sources
knows literature of merit in field and can write a coherent literature review
identifies gaps in existing knowledge base
can develop and articulate a research questions to pursue
can design and articulate a scientifically testable hypotheses, position, or purpose within the context of a discipline
Research Method & Design Skills:
specialized research expertise, including: recruiting, interviewing, sampling, conducting focus groups, and surveying
demonstrates the ability to design a study
utilizes careful, reproducible laboratory/field techniques, and understands the limitations of those techniques
understands health and safety techniques
Research Data Skills:
demonstrates the ability to acquire data independently
applies appropriate methods to collect data/information
organizes, synthesizes, analyzes, and evaluates collected data
uses statistics or math formulas, and understands math concepts
Research Evaluation Skills:
interprets results
employs evaluative methods
demonstrates the ability to objectively criticize own research and define future work
understands the importance of evaluation as it relates to funding
has command over the subject and can evaluate the worth of what others are doing
CEnR Skills:

General Skills:
demonstrates ability to mobilize resources
is aware of the resources available when conducting community engaged research and can bring awareness to supervisors of any resources that may be necessary to achieve academic goals
demonstrates community service self-efficacy
demonstrates the ability to employ any number and variety of data collection methods to achieve the goal of producing information that is useful to the community
demonstrates the ability to construct sustainability mechanisms to ensure the success of the project continues
demonstrates and understands the importance of an interdisciplinary approach to real-world problems
understands the importance of fundraising for the purposes of community engaged research
has the ability to plan, implement, and assess community-engaged research
demonstrates the ability to assess the impact of community engaged activity on the community and on the institution
Understanding of CEnR:
understands the connection between CEnR and Undergraduate curriculum
understands the importance of enhancing partners' organizational capacities and transferring skills to the community
understands and can communicate that the purpose of community engagement is the partnership of college and university knowledge and resources with those of the public and private sectors to enrich scholarship, research, and creative activity; enhance curriculum, teaching and learning; prepare educated, engaged citizens; strengthen democratic values and civic responsibility; address critical societal issues; and contribute to the public good
understands that CEnR democratizes knowledge by validating multiple sources of knowledge and promoting the use of multiple methods of discovery and dissemination
understands the importance of public and private partnerships between the university and the community, and engages in research that relies on those partnerships
understands the importance of collaboration with community partners when publishing reports and constructing policy
understands the relationship between community-engaged research and course curriculum
engages in service-learning activities and can identify service-learning components in any given class
understands the importance of collecting and interpreting data related to community engagement
can nurture meaningful discourse related to community engagement
Community Engagement Skills:
understands the importance of the community's perception of the university
demonstrates ability to negotiate across community-academic groups and contexts
demonstrates ability to interact effectively with community members and leaders
understands that affective partnerships share a worldview; collaborate; agree about goals and strategies; adopt shared, long-range social change perspectives; have mutual trust and mutual respect; share power; communicate

clearly and listen carefully; understand and empathize with each other's circumstances; and remain flexible
demonstrates a community orientation: keeps stakeholders informed of project progress, follows through when asked
can build multiplex (deep) relationships among collaborators
demonstrates an ability to create appropriate divisions of labor amongst community members
demonstrates an ability to manage authority relations, and demonstrates critical reflection upon the dynamics of power and privilege
understands the importance of creating an open and welcoming atmosphere for community engagement, through behavior and advertisement
has a basic understanding of outreach activities, including the implementation of learning centers, tutoring, extension programs, non-credit courses, evaluation support, training programs, professional development centers, etc.
understands the importance of receiving the "voice" of the community for institutional or departmental planning for community engagement
prioritizes the needs and primary interests of the community partner
demonstrates an ability to work effectively with diverse communities
demonstrates ability to collaborate with community members as co-educators, co-learners, and co-generators of knowledge
Civic Engagement:
prepares to be a good citizen
demonstrates an interest in civic activities
understands the importance of voting
understands the importance of following public policy
understands the importance of public service and outreach
demonstrates a commitment to public interest
demonstrates an understanding of local and global issues, including economic, social, behavioral, political, and environmental factors
understands the importance of social action and achieving social change and social justice
Personal Development:
General Skills:
understands the importance of human diversity (including ethnicity, race, cultural, linguistic, age, gender or sexual orientation, socioeconomic status, or disability)
appreciates artistic and creative experiences
recognizes conflicting points of view and move beyond a personal stance
demonstrates clarity of values and self-understanding
demonstrates independence and self-confidence
understands the importance of self-sacrifice

remains open to new ideas
tolerates obstacles and ambiguity
Interpersonal Skills:
recognizes emotions and concerns of others, and understands unspoken thoughts or feelings
can effectively receive and give feedback
demonstrates skills in conflict resolution and the ability to cope with conflict
deepened understanding of others who are dissimilar
emphasizes with those who have different racial or religious backgrounds
has an understanding of cultural differences
Professional Development:
General Skills:
understands personal demands of a career in given discipline
engages in student leadership and shared decision-making within the university
demonstrates accountability: communicates requirements and expectations through directions and the understanding of task requirements
demonstrates an achievement orientation: tries to do the job well, expresses a desire to do better
demonstrates change leadership: identifies areas where change is needed or what needs to be changed
demonstrates organizational awareness: understands and uses the formal structure to get things done (i.e., chain of command)
understands the importance of seeking scholarly publication
uses foreign language skills
has project management skills, including the ability to make plans and balance competing demands; ability to plan, organize, and execute a research program; ability to set and prioritize a number of intermediate goals within larger goals and develop an effective strategy and timetable for meeting them
has time management skills
has work organization skills
works and thinks independently
understands the importance of real-world work experience and resume building
understands the importance of devoting appropriate time and effort
demonstrates accuracy and attention to detail
demonstrates the ability to utilize resources, including the support and skills of colleagues
demonstrates a clarified career path
has career management skills (e.g., sets career goals, improves employability)
can adapt to new areas of activity
balances diverse perspectives in deciding whether to act
distinguishes multiple consequences of own actions
self-disciplines and is self-reliant

Collaboration Skills:
understands professional workplace, institutional, and collegial behavior
conducts work in a cooperative manner, supports team decisions, demonstrates listening skills
reflects on quality of teamwork
establishes collegial, working relationships with faculty, advisors
establishes, builds, and sustains professional contacts in order to build a professional network of peers with similar interest
demonstrates ability to run meetings or organize task forces
demonstrates ability to delegate
understands the importance of participating in a learning community
Communication Skills:
writes/edits effectively, concisely, and clearly, and exhibits control over a variety of styles
speaks effectively and persuasively
listens effectively
creates effective visual presentations
has the ability to present a paper/research
communicates results with an awareness of the associated ethical and social issues
has the ability to prepare research for publication, and is knowledgeable of publication sources
has the ability to engage in discussion of academic work
has the ability to promote academic findings to lay audiences and policy-setters
has the ability to negotiate
understands the importance and mechanics of preparing grant application
has the ability to market and exhibit entrepreneurship

Appendix B: Basic Research Skills and Undergraduate Basic Research Skills

Communication Skills:
writes/edits effectively, concisely, and clearly, and exhibits control over a variety of styles (3, 5, 6, 9, 10, 12, 16, 21, 24)
speaks effectively and persuasively (3, 5, 6, 9, 10, 12, 16, 21, 24, 33)
listens effectively (3)
creates effective visual presentations (5, 16)
has the ability to present a paper/research (5, 6, 9, 10, 12, 16, 24, 28)
communicates results with an awareness of the associated ethical and social issues (11, 5)
has the ability to prepare research for publication, and is knowledgeable of publication sources (5)
has the ability to engage in discussion of academic work (5)
has the ability to promote academic findings to lay audiences and policy-setters (5, 10, 24)
has the ability to negotiate (10)
understands the importance and mechanics of preparing grant application (10)
has the ability to market and exhibit entrepreneurship (10)
Personal Development:
has an understanding of self (3)
has an understanding of cultural differences (3, 9)
relates well to people of diff. races/cultures (3)
has interpersonal relationship skills (3, 21)
remains open to new ideas (3, 5)
validates and strengthens career and educational goals (3, 9, 12, 16, 25)
has the ability to place current issues in historical context (3)
prepares to be a good citizen (3)
develops intellectual curiosity (3, 9, 12, 16, 30)
tolerates obstacles and ambiguity (3, 16)
takes responsibility and ownership for academic experiences and success (9, 12, 16)
takes committed initiative (5, 12, 30)
has an increased interest/enthusiasm for field (12, 16, 30)
understands personal demands of a career in given discipline (16)
reflects constructively on experiences and knowledge (16)
balances diverse perspectives in deciding whether to act (16)
distinguishes multiple consequences of own actions (16)
goes beyond facile answers to engage with the complexity of a situation (16)
readily identifies ambiguities and unanswered questions (16)
self-assesses skills and training needs, and develops a plan to address those needs (5, 10)

self-disciplines and is self-reliant (10, 30)
Professional Development:
acts as a leader (3, 10, 16, 21)
considers ethical implications and subject appropriate guidelines, including conflicts of interest, publication practices and responsible authorship, identifying and mitigating research misconduct, research with human subjects, and research with living animals (3, 5, 9, 10, 21)
copes with conflict (3)
uses foreign language skills (3)
appreciates artistic and creative experiences (3)
works as part of a team, and reflects on quality of teamwork (3, 5, 9, 10, 12, 16, 24, 33)
establishes collegial, working relationships with faculty, advisors, and peers (5, 10, 12, 16, 21)
adapts to changing technology (3)
thinks logically about complex material (3, 9)
has project management skills, including the ability to make plans and balance competing demands; ability to plan, organize, and execute a research program; ability to set and prioritize a number of intermediate goals within larger goals and develop an effective strategy and timetable for meeting them (5, 6, 10, 21)
has time management skills (5, 6)
works and thinks independently (5, 6, 9, 10, 16, 24)
understands theories, concepts, and connections between/within sciences (12, 16)
understands the connection between research and coursework (12, 16, 23, 30)
understands the importance of scientific relevance (12)
understands the importance of real-world work experience and resume building (5, 10, 12, 16, 23)
has work organization skills (12, 16)
utilizes IT and computer skills (3, 5, 10, 12, 16, 24)
understands professional workplace, institutional, and collegial behavior (16, 21, 24)
asks pertinent and insightful questions (16)
perceives relations and patterns (16)
recognizes conflicting points of view and move beyond a personal stance (16)
understands the role of research within the institution (30)
understands the role of the student within the university (24)
understands the importance of collaboration in the research process and research presentation (2)
understands the importance of devoting appropriate time and effort (2)
understands how research in a particular field is organized nationally in terms of institutions and centers, congresses, societies, publications, and funding sources and some understanding of these internationally (5)
understands relevant university guidelines on research practice (e.g. ethical practice) and any

statutory regulatory requirements in subject areas (5)
understands the importance of evaluation as it relates to funding (5)
exhibits accuracy and attention to detail (5)
has the ability to utilize resources, including the support and skills of colleagues (5)
can effectively receive and give feedback (5, 10)
has career management skills (e.g., sets career goals, improves employability) (10)
can adapt to new areas of activity (24)
has command over the subject and can evaluate the worth of what others are doing (24)
Science and Research Skills:
has confidence in carrying out research (3, 12, 16, 25)
can locate, identify, and properly cite relevant literature (5, 10, 16, 21, 24)
synthesizes and uses info from diverse sources (3, 9, 16, 21)
understands, analyzes, and evaluates literature, including hypotheses and methods in the literature (3, 5, 9, 12, 16)
has reading comprehension skills (12, 16)
knows literature of merit in field and can write a coherent literature review (3, 5, 9, 16, 30)
identifies gaps in existing knowledge base, can develop questions to pursue, and design scientifically testable hypotheses (5, 11, 21, 24)
understands that scientific knowledge is open ended and constantly constructed (12, 16)
understands research concepts, methods, and practices (5, 9, 10, 12, 16, 23, 24, 25, 30)
uses statistics or math formulas, and understands math concepts (3)
has the ability to design a study (6, 12, 16, 10, 21, 24)
understands study sampling (6)
understands participant recruitment (6)
has the ability to acquire data independently (3, 6, 16)
applies appropriate methods to collect data/information (11, 12, 28)
organizes, synthesizes, analyzes, and evaluates collected data (6, 11, 12, 16, 10, 21)
interprets results (12)
solves problems independently utilizing critical thinking (3, 12, 16)
uses creativity to approach research and scientific problems (3, 9, 10, 12, 16, 24)
utilizes careful, reproducible laboratory/field techniques, and understands the limitations of those techniques (5, 12, 16, 21, 24)
understands the importance of feasibility and reasonable scope (16)
understands the importance of producing meaningful results (5, 10, 16, 24, 28)
understands health and safety techniques (5, 10, 16, 21, 24)
understands ethical research standards and practices (16)
has the ability to articulate a research question, hypothesis, position, or purpose within the context of a discipline (5, 28)
has the ability to objectively criticize own research and define future work (5, 24)
has the ability to write progress reports on research of an appropriate professional standard (5)
understands the research environment (e.g. ethics, intellectual property, funding,

commercialization) (10, 21, 24)

- (Refer to References for corresponding reference number)

Appendix C: Core Competencies for CES

	Core Competency
1	Understand concepts of "community engagement" and "community engaged scholarship"
2	Ability to convey clearly to others the meaning of "community engagement" and "community engaged scholarship"
3	Ability to connect my understanding of community engagement and community engaged scholarship with definitions used by others and thereby nurture meaningful discourse
4	Familiarity with basic literature and history of community engaged scholarship
5	Understanding of various contributors to community issues, including economic, social, behavioral, political, and environmental factors
6	Skills for fostering community and social change
7	Commitment to fostering community and social change
8	Knowledge of the principles of community engages scholarship (i.e., theoretical frameworks, methods of planning, implementation and evaluation)
9	Skills in applying the principles of community engaged scholarship in practice
10	Ability to work effectively with diverse communities
11	Ability to negotiate across community-academic groups and contexts
12	Ability to write successful grant proposals expressing principles and approaches to community engaged scholarship
13	Ability to publish peer reviewed journal articles grounded in process and outcomes of community engaged scholarship
14	Ability to collaborate with community members to generate significant, useful products of community engaged scholarship that influence practice in the community
15	Ability to transfer skills to the community, thereby enhancing community capacity, and to share skills with other faculty, recognition by the community
16	Ability to share my learning about community engaged scholarship effectively with other faculty
17	Knowledge and successful application of definition of "community engaged scholarship," CES benchmarks, scholarly products, outcomes, and measures of quality
18	Understanding the policy implications of CES and ability to work with communities in translating the process and findings of CES into policy
19	Ability to balance tasks in academia (e.g., research, teaching, service), posing special challenges to those engaged in CES in order to thrive in an academic environment
20	Ability to effectively describe the scholarly components of community engaged work in a portfolio for review, promotion, and/or tenure
21	Knowledge of RPT process and its relationship with CES; ability to serve on RPT committee
22	Ability to mentor students and junior faculty in establishing and building CES based portfolio
23	Ability to integrate community engaged scholarship in my work with students (via teaching or research activities)
24	Ability to collaborate with students as co-educators, co-learners, and co-generators of knowledge

25	Ability to collaborate with community members as co-educators, co-learners, and co-generators of knowledge
26	Ability to provide leadership on my campus' efforts to advance community engaged scholarship
27	Understanding of the conditions for and the dynamics of strong partnerships in CES
28	Skills in establishing, maintaining, and strengthening partnerships in CES
29	Ability to consistently act in ethical and socially responsible ways in the conduct of CES on campus and in community
30	Ability to critically reflect on CES including conceptual frameworks and power & privilege

Core Competencies as noted in:

Blanchard, L.W., Hanssman, C., Strauss, R. P., Belliard, J. C., Krichbaum, K., Waters, E., & Seifer, S. D. (2010). Models for faculty development: What it takes to be a community-engaged scholar. *Metropolitan Universities 20*(2), 47-65.

Blanchard, L. W., Strauss, R. P., & Webb, L. (2012). Engaged scholarship at the University of North Carolina Chapel Hill: Campus integration and faculty development. *Journal of Higher Education Outreach and Engagement 16*(1), 97-128.

Doberneck, D. M. (2013). MSU Graduate Certification in Community Engagement. East Lansing, MI: University Outreach and Engagement, Michigan State University. Available at: http://gradcert.outreach.msu.edu/requirements/

Jameson, J. K., Clayton, P. H., Jaeger, A.J., & Bringle, R. G. (2012, Spring). Investigating faculty learning in the context of community-engaged scholarship. *Michigan Journal of Community Service Learning 18*(2), 40-55.

- Chart pulled directly from: Doberneck, D. (2013). Engagement portfolios: Engaging their potential in community engaged scholarship, core competencies for professional development in community engaged scholarship. *IARSLCE Conference 2013*

Appendix D: Institutional Expectations for Student Learning Outcomes from CEnR

Academic Accountability:
self-assesses academic learning, can communicate self-assessments to supervisors, and works to improve based on those self-assessments (1,29)
is aware of the learning goals of each course and each program (1, 29)
understands the importance of human diversity (including ethnicity, race, cultural, linguistic, age, gender or sexual orientation, socioeconomic status, or disability) (1)
engages in student leadership and shared decision-making within the university (1)
maximizes the value of a unique educational and mentoring opportunity (32)
is aware of ways to pursue further professional development in community engaged research (29)
Research and Academic Skills:
engages in long-term goals to be achieved within the time in the program (1)
exhibits qualities of a critical learner and can assess and apply the information received (1)
utilizes technological capabilities to enhance the learning process, such as Blackboard, computerized analytic tools, simulation software, or internet databases (1)
has the ability to utilize university resources such as texts, archives, or databases (1)
Understanding of CEnR:
understands that the purpose of community engagement is the partnership of college and university knowledge and resources with those of the public and private sectors to enrich scholarship, research, and creative activity; enhance curriculum, teaching and learning; prepare educated, engaged citizens; strengthen democratic values and civic responsibility; address critical societal issues; and contribute to the public good (22)
understands the importance of public and private partnerships between the university and the community (1)
understands the importance of collaboration with community partners when publishing reports and constructing policy (1)
has the ability to plan, implement, and assess community-engaged research (1)
understands the relationship between community-engaged research and course curriculum (1, 32)
understands the importance of collecting and interpreting data related to community engagement (29)
has a basic understanding of how to assess the impact of community engaged activity on the

community and on the institution (1)
understands the importance of an interdisciplinary approach to real-world problems (1)
understands the importance of fundraising for the purposes of community engaged research (29)
University Engagement:
is aware of the resources available when conducting community engaged research and can bring awareness to supervisors of any resources that may be necessary to achieve academic goals (1)
pursues internships and field experience (1)
engages in service-learning activities and can identify service-learning components in any given class (1, 29)
attends conferences or workshops for CEnS and is familiar with educational materials related to CEnS (1)
understands the role of CEnS at the university and can interact with/approach staff who are engaged in CEnS (29)

- (Refer to References for corresponding reference number)

Appendix E: Sources by Subject Matter and Type

Author (Year)	Title	Subject	Source Type
Academic Programs Accreditation Self-Study Task Force and Carnegie Community Engagement Classification Working Group. (2015).	Academic programs and Carnegie community engagement survey.	Institutional Expectations for UCEnR	Institutional Publications
Arora, A., Mittal, A., & Pasari, R. (2011).	*What makes a good researcher?* (Social and Information Network Analysis).	Basic Research Skills	Dissertation/ Lecture
Bauer, K. W., & Bennett, J. S. (2003).	Alumni perceptions used to assess undergraduate research experience.	Basic Undergraduate Research Skills	Journal Article: Empirical
Best Practice. (n.d.).	Cambridge Dictionaries Online.	Theoretical Guidance	Dictionary
Bouhaimed, M., Thalib, L., & Doi, S. A. R. (2008).	Outcomes associated with community-based research projects in teaching undergraduate public health.	Basic Skills of UCEnR	Journal Article: Empirical
Boyer, E. L.. (1996).	The Scholarship of Engagement.	Theoretical Guidance	Dissertation/ Lecture
Bromley, A. P., Boran, J. R., & Myddelton, W. A. (2007).	Investigating the baseline skills of research students using a competency-based self-assessment method.	Basic Research Skills	Journal Article: Empirical
Burgoyne, L. N., O'Flynn, S., & Boylan, G. B. (2010).	Undergraduate medical research: The student perspective.	Basic Skills of UCEnR	Journal Article: Theoretical
Doberneck, D. (2013).	Engagement portfolios: Engaging their potential in community engaged scholarship, core competencies for professional development in community engaged scholarship.	Basic Skills of CES	Dissertation/ Lecture
Dunbar, D., Terlecki, M., Watterson, N., & Ratmansky, L. (2013).	*An honors interdisciplinary community-based research course.*	Theoretical Guidance	Journal Article: Empirical
Georgia Institute of Technology. (2005).	*Strengthening the global competence and research experiences of undergraduate students.*	Basic Undergraduate Research Skills	Institutional Publications
Gilbert, R., Balatti, J., Turner, P., & Whitehouse, H. (2004).	The generic skills debate in research higher degrees.	Basic Research Skills	Journal Article: Theoretical
Gray, S., Coates, L.,	Developing research skills across the	Basic	Journal

Fraser, A., & Pierce, P. (2015).	undergraduate curriculum.	Undergraduate Research Skills	Article: Theoretical
Hunter, A., Laursen, S. L., & Seymour, E. (2007).	Becoming a scientist: The role of undergraduate research in students' cognitive, personal, and professional development.	Basic Undergraduate Research Skills	Journal Article: Theoretical
Kravetz, K. (2004).	Undergraduates and community-based research: Benefits, challenges and opportunities.	Basic Skills of UCEnR	Dissertation/ Lecture
Lane, S. J. (2014).	Measures of student competence following participation in a patient-centered medical home demonstration project-practicum in primary care.	Basic Skills of UCEnR	Journal Article: Empirical
Lichtenstein, G., Thorme, T., Cutforth, N., & Tombari, M. L. (2011).	Development of a national survey to assess student learning outcomes of community-based research.	Basic Skills of UCEnR	Journal Article: Empirical
Lopatto, D. (2009).	*Science in solution: The impact of undergraduate research on student learning.*	Basic Undergraduate Research Skills	Dissertation/ Lecture
Lopatto, D. (2010).	Undergraduate research as a high-impact student experience.	Basic Skills of UCEnR	Journal Article: Theoretical
Matthews, P. H. (2012).	Developing and evaluating a student scholars program to engage students with the university's public service and outreach mission.	Basic Skills of UCEnR	Journal Article: Empirical
Meyer-Adams, N., Potts, M. K., Koob, J. J., Dorsey, C. J., & Rosales, A. M. (2011).	How to tackle the shift of educational assessment from learning outcomes to competencies: One program's transition.	Basic Undergraduate Research Skills	Journal Article: Theoretical
Moely, B., & Ilustre, V. (2014).	The impact of service-learning course characteristics on university students' learning outcomes	Basic Skills of UCEnR	Journal Article: Empirical
Morrill, R. L. (2010).	*Strategic leadership: Integrating strategy and leadership in colleges and universities.*	Theoretical Guidance	Journal Article: Theoretical
National Postdoctoral Association. (2009).	National postdoctoral association (NPA) core competencies self-assessment checklist.	Basic Undergraduate Research Skills	Institutional Publications
New England Resource Center for Higher Education. (2015).	*Carnegie community engagement classification.*	Institutional Expectations for UCEnR	Institutional Publications

O'dell, C., & Grayson, C. J. (1998).	If only we knew what we know: Identification and transfer of internal best practices.	Theoretical Guidance	Journal Article: Theoretical
Ozay, S. B. (2012).	The dimensions of research in undergraduate learning.	Basic Undergraduate Research Skills	Journal Article: Theoretical
Pearson, M., & Brew, A. (2002).	Research training and supervision development.	Basic Research Skills	Journal Article: Theoretical
Pelco, L. (2014).	*Introduction to Service Learning: Cycles of Action & Reflection.*	Theoretical Guidance	Dissertation/ Lecture
Prahalad, C. K. & Hamel, G. (1990).	The Core Competence of the Corporation.	Theoretical Guidance	Journal Article: Theoretical
Russell, S. H., Hancock, M. P., & McCullough, J. (2007).	Benefits of undergraduate research experiences.	Basic Undergraduate Research Skills	Journal Article: Empirical
Ryser, L., Markey, S., & Halseth, G. (2013).	Developing the next generation of community-based researchers: Tips for undergraduate students.	Basic Skills of UCEnR	Journal Article: Theoretical
Strand, K., Marullo, S., Cutforth, N., Stoecker, R., & Donohue, P. (2003).	Principles of best practice for community-based research.	Basic Skills of UCEnR	Journal Article: Theoretical
SUNY Cortland. (2015).	*Undergraduate research course attribute.*	Basic Undergraduate Research Skills	Institutional Publications
The Carnegie Foundation for the Advancement of Teaching Elective Community Engagement Classification. (2015).	First-time classification documentation framework.	Institutional Expectations for UCEnR	Institutional Publications
Toledo-Pereyra, L. H. (2012).	Ten qualities of a good researcher.	Basic Research Skills	Journal Article: Theoretical
Totten, L. (2011).	*Engaging community: Organizing within the academy for social change*	Basic Skills of CES	Dissertation/ Lecture
VCU Audit and Compliance Services. (2014).	*Research-related institutes and centers.*	Institutional Expectations for UCEnR	Institutional Publications
Virginia Commonwealth University. (2013a).	*Assessing Student Learning Outcomes.*	Theoretical Guidance	Institutional Publication

Virginia Commonwealth University. (2013b).	*VCU Community Engagement Terms and Definitions.*	Theoretical Guidance	Institutional Publication
Virginia Commonwealth University. (2016).	*About Us: Welcome from the Vice Provost.*	Theoretical Guidance	Institutional Publication
Wilson, A., Howitt, S., Roberts, P., Åkerlind, G., & Wilson, K. (2013).	Connecting expectations and experiences of students in a research-immersive degree.	Basic Undergraduate Research Skills	Journal Article: Theoretical

Appendix F: Core Competency Sources Categorization

Total Number of Sources, Categorized by Subject (Percent, Excluding Theoretical Guidance)					
Basic Skills of UCEnR	Basic Skills of CES	Basic Research Skills	Basic Undergraduate Research Skills	Institutional Expectations for UCEnR	Theoretical Guidance
10 (31%)	2 (6%)	5 (16%)	11 (34%)	4 (13%)	10

Total Number of Sources Categorized by Type, Excluding Theoretical Guidance				
Journal Article: Empirical	Journal Article: Theoretical	Institutional Publication	Dissertation/ Lecture	
9	12	7	5	

- This list excludes references used explicitly for theoretical guidance, as these references were not used to form the list of Core Competencies. All articles used for theoretical guidance were only used for the purposes of this report.

Appendix G: Learning Outcomes and Best Practices for UCEnR

Research and Academic Skills:
exhibits good research methodology and technical adroitness, including: identification, reading, and analysis of sources; collection and interpretation of data; preparation of tables; research paper writing; issuing recommendations; and implementing initiatives (4, 13, 15, 17, 26, 27)
understands research methods across disciplines (8, 17, 18)
exhibits specialized research expertise, including: interviewing, sampling, conducting focus groups, and surveying (13, 18)
understands research preparation (13)
utilizes supervision (13, 17)
sets clear priorities and goals (13)
employs evaluative methods (13, 17)
tolerates obstacles faced in the research process (17)
understands how knowledge is constructed (17)
exhibits readiness for more demanding research (17)
understands research design (17)
has organizational skills (27)
devises rules and control mechanisms for undertaking research projects (27)
Commitment to Scientific and Community Relevance:
has the ability to produce new information, ideas, interpretations, or critical findings (4)
understands the importance of valuable contribution to existing paradigms and practices (4)
understands the role of research in altering policy or practice in particular field (4)
understands the role of research in social, economic, or environmental change, locally or internationally (4)
understands the need for research to be relevant to field (4)
Understanding of CEnR and Educational Experience:
understands the merits behind CEnR and community service (8)
understands the connection between CEnR and Undergraduate curriculum (8)
develops a greater understanding of academic content (15, 20)
increases interactions with faculty (15, 27)
increases interest in major (15)
increases interest in college (15, 20)
understands that CEnR democratizes knowledge by validating multiple sources of knowledge and promoting the use of multiple methods of discovery and dissemination (27)

Professional Development:
exhibits accountability, and communicates understanding of task requirements (14)
exhibits an achievement orientation: tries to do the job well, expresses a desire to do better (14)
exhibits analytical thinking: understands a situation, issue, or problem by breaking it into smaller pieces (14, 20)
exhibits a community orientation: keeps stakeholders informed of project progress, follows through when asked (14)
exhibits change leadership: identifies areas where change is needed or what needs to be changed (14, 20)
has collaboration skills: conducts work in a cooperative manner, is supportive of team decisions, exhibits enhanced listening skills (14, 15)
has communication skills: speaks and writes in a clear and logical manner (14, 17)
has information technology management skills: recognizes the potential of information systems in process and patient service improvement, actively promotes information system implementation (14)
has organizational awareness: understands and uses the formal structure to get things done (i.e., chain of command) (14)
has relationship building skills: establishes, builds, and sustains professional contacts in order to build a professional network of peers with similar interest (14, 17)
experiences clarity in career path (15, 17)
improves skills with conflict resolution (15)
improves ability to run meetings (15)
improves ability to delegate (15)
recognizes and pursues opportunity for scholarly publication (17)
participates in a learning community (17)
Research Ethics:
demonstrates ethics, social accountability, and acts openly (14)
Civic and Community Engagement:
understands the importance of community interaction (8)
understands the importance of civic activities (15, 18)
understands the importance of voting (15)
understands the importance of public service and outreach (18)
exhibits community service self-efficacy (18)
understands the importance of public policy (18)
commits to public interest (18)
understands of local and global issues, including social issues (4, 15, 20)
understands the importance of social action and achieving social change and social justice (27)
understands that affective partnerships share a worldview; collaborate; agree about goals and

strategies; adopt shared, long-range social change perspectives; have mutual trust and mutual respect; share power, communicate clearly and listen carefully; understand and empathize with each other's circumstances; and remain flexible (27)
prioritizes the needs and primary interests of the community partner (27)
commits to enhancing partners' organizational capacities (27)
has the ability to employ any number and variety of data collection methods to achieve the goal of producing information that is useful to the community (27)
has the able to step outside one's own discipline and explore topics that may be quite outside one's own disciplinary boundaries (27)
has the ability to mobilize resources (27)
has the ability to build multiplex (deep) relationships among collaborators (27)
has the ability to create appropriate divisions of labor amongst community members (27)
has the ability to manage authority relations (27)
understands the importance of constructing sustainability mechanisms to ensure the success of the project continues (27)
Personal Development:
exhibits interpersonal understanding: recognizes emotions and concerns of others, and understands unspoken thoughts or feelings (14, 15, 27)
exhibits deepened understanding of others who are dissimilar (15)
emphasizes with those who have different racial or religious backgrounds (15, 18)
exhibits clarity of values (15)
exhibits independence and self-confidence (17, 18)
exhibits a sense of accomplishment (17)
exhibits self-sacrifice (18)

- (Refer to References for corresponding reference number)