Instructional Technology Capstone Project Standards and Guidelines

The Committee recognizes the fact that each EdD program is likely to articulate some requirements that are unique. What follows are a set of basic requirements for the capstone project that the Committee believed should apply to all EdD programs. Because the capstone project is to be the culminating experience for a degree, the Committee recommends that each program integrate the capstone carefully into its program. If the program is to teach students to think, act, and conduct themselves as professionals in that field, the capstone project should require students to demonstrate how they have learned to approach their work and apply the knowledge and skills they have acquired throughout the program. Programs may want to consider a backwards design approach to ensure that students build the requisite knowledge and skills in their courses and field work so that they can successfully complete the capstone.

Purposes of the Capstone Project

The goal of EdD programs is to prepare Practitioner-Scholars, individuals with a set of expectations distinct from those of Scholars, on the one hand, and Practitioners on the other. Practitioners are expected to improve practice by drawing on field experience. Scholars are expected to develop and disseminate knowledge. Practitioner-Scholars are expected to improve practice by drawing on both experience and systematic inquiry. Given this distinctive role, the purpose of the capstone project is to provide prospective Practitioner-Scholars with a supervised opportunity to demonstrate the knowledge, skills, and understandings that they have acquired in their EdD course of study. In order to demonstrate what they have learned, EdD students are expected to identify a problem of importance to practitioners and apply what they have learned in order to address the problem. Use-inspired disciplined inquiry for improved practice is the ultimate aim of the EdD capstone project. The format of the written work should reflect the fact that a capstone project is intended to benefit practitioners and, ultimately, the public.

Like the dissertation, the capstone project at the Curry School is designed to be a demonstration of a student’s ability to carry out disciplined inquiry in accordance with college-wide standards of performance. The standards for performance set forth here should prepare students for the work of a leader in his or her field of practice. A capstone project at the Curry School should uphold the intellectual values of doctoral education and “build capacities and dispositions for critical thinking, disciplined inquiry, and argumentation; develop attitudes supporting reflection and intellectual curiosity; and develop advanced competence for written and oral exposition (Archbald, 2008, p. 710).”

Minimum Requirements

These requirements describe what EdD students should demonstrate in their work on a capstone project beyond what they might have learned on the job as a result of their initial credential program.

Students who successfully complete an EdD capstone project should demonstrate their ability to:

- Consider problems of practice from perspectives other than those derived from their own experience and early training.
• Challenge prevailing assumptions and beliefs about teaching, learning, leadership, and what it means to be a professional in a democratic society.
• Make sound, defensible, research-based judgments regarding the likelihood that current practices can be undertaken more effectively and efficiently.
• Apply skills of practical inquiry and development in a rigorous and systematic way to address problems of practice. (Such skills should include, but not be limited to, framing and locating problems; acquiring, organizing, and analyzing information; and planning, implementing, and evaluating decisions.)
• Develop or make recommendations regarding changing practices, programs, and/or policies.
• Address problems of practice in ways that recognize the idiosyncratic needs of individuals and the characteristics of particular contexts.
• Communicate the results of practical inquiry and development to appropriate audiences using effective communication practices.

Examples of Capstone Projects

Capstone projects should aim to improve practice by solving a problem and contributing to improved organizational or professional performance. As a problem-solving study it inquires into and analyzes the nature and dimensions of a problem and establishes that there is a difference between the present and the ideal state, and then builds a case for improvements and make recommendations for action. It is pragmatic in nature, not theoretical, and seeks to make a case for recommended action. Overall, a capstone project addresses the questions of what is the problem, and what should we do about it? One or more guiding questions for inquiry will in turn flow from these. Such disciplined inquiry may draw upon qualitative and/or quantitative research techniques.

The Committee identified several possible formats for disciplined inquiry that address the proposed purposes of the capstone project. They include, but are not limited to, needs analysis, program evaluation or process analysis, program development and design, organizational diagnosis, organizational development, policy analysis, impact evaluation and cost-benefit analysis. Examples of problems and a guiding question that might be explored through some of these formats are as follows:

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<tr>
<th>Format</th>
<th>Problem</th>
<th>Guiding Question</th>
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<tbody>
<tr>
<td>Program evaluation/Process</td>
<td>Staff dissatisfaction with the supervision process at West Middle School</td>
<td>• How close is the supervision process to an ideal program, and how can it be improved?</td>
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<tr>
<td>Analysis</td>
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<tr>
<td>Program development and design</td>
<td>Low reading performance at South Elementary School</td>
<td>• What supplementary reading program is most likely to produce improvements in reading?</td>
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<td>Organizational development</td>
<td>The organizational culture and structure of North Vocational-Technical High School is a barrier to individualizing instruction for students</td>
<td>• What can be done to facilitate the implementation of Response to Intervention (RTI) in North Vocational-Technical High School?</td>
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Policy analysis
East division’s ninth grade students are struggling in the transition to high school

- How can the challenges associated with the transition from middle school to high school be addressed?

Cost-benefit analysis
The South City Schools division is considering an alternative partnership arrangement with community education

- What approach would be the most cost-effective way to preserve high quality community education programming?

It should be noted that the Committee rejected the idea that a group of students could undertake a capstone project. While such a possibility might be considered in the future, it was felt that a group project presented too many challenges for faculty to resolve so early in the life of the new EdD requirements. The Committee also rejected the notion that a capstone project simply could be a portfolio of work done throughout the course work of the program. A portfolio is unlikely to produce focused benefit for practice or uphold the intellectual expectations of doctoral education.

Capstone Quality Indicators

The Capstone Quality Indicator Checklist CQIC consists of eight major components dealing with 1) the executive summary, 2) conceptual framework, 3) the problem(s) of practice to be addressed in the capstone project, 4) the methodology for addressing the problem(s) of practice, 5) the products developed to address the problem(s) of practice, 6) conclusions, actions, and implications, 7) writing quality, and 8) the presentation of products.

Rating the Indicators

For each category described above, several statements are provided as general indicators of quality. Readers of the capstone project may rate each statement according to the following criteria. These ratings are meant as general guides only. They also require subjective judgments of committee members.

Acceptable. Acceptable implies that this aspect of the capstone project requires no further revision on the part of the student. In the case of capstone proposals, a designation of acceptable implies that the capstone project may proceed as proposed. In the case of final projects, faculty members are strongly encouraged to elaborate on this designation for projects that are of extraordinarily high quality. For example, if some aspect of the project is exemplary, specific comments about this should be made in the comments sections that follow each category or the general comments sections at the end of the capstone quality indicators checklist.

Minor Revision Necessary. Minor Revision Necessary implies that while this aspect of the proposal or completed project needs some correction, elaboration, or other improvement, it does meet a minimal standard of quality. At the proposal stage, this implies that while the issue should be addressed, the project may proceed. At a final defense this designation implies that while some revision of the project manuscript is necessary, the project merits a designation of “pass.” This presumes that any needed modifications or editing will be made within a time frame agreed upon with the chair.

Major Revision Necessary. Major Revision Necessary implies that this aspect of the project does not meet a minimal standard of quality and must be corrected. At the proposal stage, this implies that the project should not proceed until the issue of concern is corrected. At a final...
project defense, this implies that the issue must be corrected before the student receives a designation of “pass.”

**Capstone Quality Indicators Checklist**

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**1. EXECUTIVE SUMMARY**

- The purpose of the study and the importance of the work within the larger conceptual framework are clearly delineated.
- Identification of the specific problem(s) or issue(s) that the study is addressing are clearly tied to practice.
- The methodology that was employed to address the study’s questions are clearly presented.
- Overall results that were obtained are presented.
- The implication of the study’s findings and how the study’s findings fit within the larger conceptual framework and community of practice is delineated.

**Comments:**

**2. CONCEPTUAL FRAMEWORK**

- A clear statement of the problem is presented, with important and relevant concepts defined.
- A clear link is established between what is known about this problem (in existing literature) and how it pertains to this problem of practice.
- The importance of the general topic and specific questions posed is made clear.
- The proposed inquiry is guided by a coherent conceptual framework.

**Comments:**

**3. PROBLEM(S) OF PRACTICE**

- The problem is of significance to practitioners.
- The problem has been stated clearly.
- There is an explanation of how the problem is related to the professional problem.
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<td>The problem has been examined from multiple perspectives.</td>
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<td>The problem has been examined in light of contextual concerns.</td>
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<td>A convincing rationale for addressing the problem has been provided.</td>
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<td>There is a reasonable likelihood that the student can address the problem successfully.</td>
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### 4. FORMAT AND METHODOLOGY

An appropriate format for inquiry and methodology has been chosen to address the problem.

Procedures for data collection are described in detail and are appropriate to the questions posed.

Data collection tools (e.g., instruments, interview or observation guides) are described in detail and are appropriate.

Data analysis plans are appropriate and are described in detail, with particular reference to the question(s) posed.

Careful consideration has been given to ethical concerns and possible negative consequences of applying the methodology.

Comments:

### 5. CAPSTONE PROJECT COMPONENTS: POSITION PAPER & ACTION COMMUNICATIONS

The capstone components actually address the stated problem(s) of practice.

The capstone project builds a rigorous, informed and evidence-based argument regarding the problem and its solution.

The capstone project addresses the multiple and diverse identified audiences in ways pertinent for their understanding the problem and its proposed solution.

The capstone project presents a coherent narrative, with the paper unifying the action communication products.

Evidence has been provided that the capstone project a) improved practice or b) is likely to improve practice when
6. CONCLUSIONS, ACTIONS, & IMPLICATIONS

Results or findings are summarized clearly and show how an analysis informs the recommendations for actions and decisions.

Results or findings are placed in an appropriate context of practice.

The implications of findings for practice and for further action are provided.

The limitations of the project are acknowledged and recommendations for future work regarding the problem are provided.

The capstone product has been shared with/reviewed by practitioners.

There is evidence that practitioner feedback has been used in preparing the “final” version of the capstone product.

A plan has been provided for informing practitioners about the capstone product.

Comments:

7. WRITING

The capstone project is written in a professional manner.

The capstone project is free of grammatical, spelling, and typographical errors.

The capstone project follows a structure and organization consistent with Curry guidelines for capstone projects and APA or other acceptable style requirements. Proper attribution is given when the work of others is used or cited.

Comments:

8. PRESENTATION

The student’s oral presentation of the proposal or project is clear
and concise, and handouts or multimedia presentations enhance, rather than detract from, this clarity.

The student’s presentation and interaction with committee members (and/or audience) during an oral defense demonstrate his or her clear understanding of the topic, the relevant literature, and all aspects of the capstone project.

The student presents the capstone project in a professional manner.

Comments:

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**Guidelines**

The Committee identified a number of matters related to the capstone project that may require guidelines. Many of these guidelines are likely to require consideration at the program level. These include the following:

- The length of time allowed for the completion of the capstone project.
- The point in the program when students can commence work on the capstone project.
- Whether the capstone project work is attached to a course, or separate.
- Whether or not the capstone project is to be presented to the organization’s audience.

This last point, the requirement of a presentation of the capstone project to the audience at the organization within which the capstone is based, should be considered carefully by programs. While a presentation of findings, or utilization of the action communication materials the student produces in the capstone is desirable because it completes the cycle of addressing a problem of practice, it could curtail the critical analysis and write-up in which the student is willing to engage because of political concerns or issues of power within the organization studied. Should programs wish to require a presentation by the student back to the organization, advisors should help students select problems of practice for which they anticipate the student can completely fulfill that requirement. Please note that related to presenting findings to the organization the position paper (one of the two capstone project components) does ask students to analyze their audience for dissemination and defend the selection of their action communications (the second of the two capstone project components).

The guidelines that follow should apply to all EdD students working on a capstone project:

**Format**

All capstone projects must involve two written components. The first is a position paper that analyzes the problem and shows how data and analysis informs the perspective the student
takes on the problem. Based on collected data, it also recommends actions and decisions. The
second component consists of a set of action communications; their format, style, and content
will vary according to the analysis of the problem, and the nature of the recommended action
steps. Together these two written components illustrate how the problem was identified, framed,
investigated, and analyzed, and the suggested solutions.

The position paper, the scholarly portion of the capstone project, explains the problem of
practice that the student has framed from his or her analysis of the problematic organizational
situation. This position is substantiated by data that has been gathered and its analysis. The
analysis makes clear how the problem definition is grounded in and informed by the
organization’s context and culture. It presents a historical perspective by recounting the causes
and evolution of the problem, and should make clear the student’s role, both in the organization
and as it relates to the problem. The analysis of the current status of the problem is supported by
both the literature and the collected data. The position paper discusses possible problem
solutions, their relative merits, and then recommends and justifies which actions to implement.
These recommendations will note the implications for action communications, the second
portion of the capstone project, that are needed for implementation. The position paper concludes
by explaining for each action communication its specific audience(s), intended purpose(s), and
relationship to the recommended implementation action steps.

The set of action communication products illustrate what is to be communicated to whom
about the problem and the implementation of its solution, and thereby completes the capstone
project’s cycle of inquiry into the selected problem of practice. For example, a student’s position
paper might identify that to implement a new curriculum one audience is school administrators at
the central office and in school buildings, and another audience is teachers. To communicate the
relevant points to administrators the student might create include curriculum implementation
planning documents. To communicate the pertinent messages about the curriculum to teachers
the student may create professional development materials in the form of web pages, or
multimedia products such as PowerPoint presentations. These action communication products
should be accompanied by an explanation about how they should be utilized and/or guidance for
their presentation. Collectively the set of action communication products address the
dissemination needs for the solution’s implementation to the appropriate audiences as they were
identified in the position paper. They will be included with the position paper, as an appendix.

Sources of capstone problem of practice:

A capstone problem of practice may be identified in one of three ways:

1) A problem may be identified by a student through independent data analysis and then
presented to a field organization for approval in the form of a Capstone Project
Recommendation (CPR).
2) A problem may be proposed by a field organization in the form of a Request for
Assistance (RFA) and chosen by a student.
3) A problem may be proposed by a student’s Capstone Advisor or Capstone Project
Committee.

Capstone supervision

The Capstone committee is composed of a minimum of three University of Virginia
faculty members. These three committee members must be Curry faculty and at least one must
be from the student’s home program area to serve as the Chair or Co-Chair. Consistent with University’s policy for faculty membership, eligible faculty are those who are at the assistant professor rank or higher and who are not visiting faculty members from another university.

Three members are required:

1) A capstone advisor (chair/co-chair) who is the first line of communication between the student and the other committee members and may also provide content or methodological expertise.

2) A second member to provide content expertise for the student’s area of inquiry or methodological expertise consistent with the student’s guiding question(s) and inquiry approach.

3) A Dean’s Representative (i.e., outside member), who must be housed outside the student’s home program area and preferably outside of the student’s department. Any faculty member eligible to serve on dissertation committees may serve on a committee as the Dean’s Representative member. The role of the Dean’s Representative member is to provide outside insights into the student’s conceptual, theoretical, methodological, and/or content area assumptions.

A fourth member may serve on the committee if deemed appropriate by the student and the student’s advisor. While faculty members from outside the University can only serve as the committee’s fourth member, their presence is encouraged on capstone committees to help judge the adequacy and appropriateness of the action communications, in particular. This fourth member would be non-voting. A terminal degree is not required of this outside member; their expertise would be included to provide perspective on the adequacy of the capstone components relative to the its inquiry context.

The membership of the Ed.D. student’s capstone committee is largely determined by the student and the student’s advisor. The Dean’s representative member is determined through a three-step process:

1. The advisor and the student review a list of eligible faculty members outside the home program area and in most cases outside the department. In addition, the student and advisor may recommend a faculty member from outside the Curry School of Education when appropriate for the program area or proposed study.

2. The capstone advisor and student make an unranked list of their top three faculty selections to serve as the Dean’s Representative member to the committee, noting what content area, methodological, or other relevant expertise the individual will bring to the student’s committee. This request is filed with the office of the Associate Dean for Academic Affairs.

3. The Office of the Associate Dean for Academic Affairs reviews the student’s request for the Dean’s Representative committee member and, after consultation with the department chairs, makes the final determination based on faculty capstone and dissertation load and other relevant factors.

Capstone evaluation

The Capstone Project Proposal (CPP) must be defended by the EdD student before the Capstone Project Committee. All members of the committee must be present (or linked electronically), and the three required members must approve the Capstone Project Proposal for it to pass.
The Completed Capstone Project (CCP) must be presented to the Capstone Project Committee in an open forum. The presentation should focus on the impact (or potential impact) of the project on the chosen problem of practice. Members of the Capstone Project Committee will use the Capstone Quality Indicator Checklist to help in evaluating the project and determining if the Doctor of Education degree should be awarded.

In the event the Capstone Project Committee decides not to approve the capstone project, the committee can decide to provide the student with constructive feedback and one opportunity to re-defend the capstone project. The committee is not obligated to do so, however.

**Institutional Review Board**

All Ed.D. students must apply for approval to the Institutional Review Board (IRB).

**Format and Style**

Guidelines for the format and style of capstone projects still need to be developed by the Curry School. These guidelines will direct students as to how to prepare their final end product. It is recommended that the capstone components be prepared in accordance with APA style.

**Archiving**

It is recommended that once the the student defends his or her capstone project and it is officially approved, a print copy of the item could be deposited in the University Library’s collection. By archiving it in this way, the university would preserve a record of the project and provide intellectual access to it. It is not recommended that the capstone project be submitted to dissertation abstracts.