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Competence assessment integrating reflective practice in a professional psychology program

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Abstract: The Midwestern University Clinical Psychology Program – Glendale Campus (MWU) created a Comprehensive Assessment Method in Psychology (CAMP) comprised of 35 different "tasks" of authentic work products representing a variety of assessment techniques based on pedagogical theory. Each task assesses one or more components of one of the program's five identified competence areas. Tasks are submitted at multiple points, increasing in complexity, during the student's tenure in graduate school. CAMP includes an innovative qualifying exam (QE) which formally evaluates a student's ability to self-reflect and to accurately self-assess. In the QE, students engage in a process of reflection and substantive dialogue with a panel of two faculty members about their CAMP work products and describe their development, understanding of the context, and purpose of their education. The goal of the CAMP was not only to achieve and measure student competence, but to create an environment where students and faculty participate in ongoing reflection and even, aspire to artistry. MWU sought expert feedback to establish construct validity of the CAMP and QE processes in the form of a survey. The authors believe the method has relevance for graduate training in many disciplines, particularly those leading to professional practice degrees.

Keywords: reflection, self-regulation, self-assessment, competence, assessment

One hundred years ago, John Dewey published "How We Think." In this book Dewey describes reflection as including, "a) a state of perplexity, hesitation, doubt; and b) an act of searching or investigation directed toward bringing to light further facts which serve to corroborate or to nullify the suggested belief." (Dewey, 1910. p.9) The authors of the current paper began a new doctoral program in professional psychology in 2007. We set out to find superlative methods for developing and evaluating students in their journey to become professionals. We extensively reviewed information on competence assessment and educational development in our field and reviewed educational theory outside our discipline. We found the work of John Dewey (1910), the work on self-reflection by Donald Schön (1987) and the 1985 book "Reflection: Turning Experience into Learning," edited by David Boud, Rosemary Keogh and David Walker, particularly helpful.

We came to the conclusion that reflection is the necessary element for *all* growth and development. In educational programs, imparting knowledge and developing skills are necessary, but not sufficient, for what we wanted to accomplish. We wanted to create an educational environment that enabled students, not only to develop minimum competence in identified areas necessary for our profession, but to aim for what Schön (1987) dubbed *artistry*. Schön explained there are some people in every profession who become truly outstanding

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practitioners. These practitioners are not described as having *more* professional knowledge than peers, but are described as wise, talented, and intuitive, more aptly, artists. We wanted to help our students, and ourselves, seek wisdom and maturity in a context where reflection is integrated, planned and evaluated.

This paper is an articulation of the process undertaken by authors and a compilation of conclusions. We believe it has relevance for graduate programs in many content areas, particularly programs that lead to professional practice.

Finding better ways to assess student competence is a focus of many professional programs, but innovation can be disconcerting. The appearance of legitimacy and tradition is important for programs trying to satisfy accrediting bodies, even when the familiar methods have *not* been proven to accurately assess competence or even acceptably measure an outcome. Established organizations, including academic institutions, often change slowly, even amid dissatisfaction with existing procedures (Shelleyann & Dixon, 2009). Faculty may hesitate to veer from customary paths, because initiating creative methods often startles a system and may have unintended consequences. Planned change requires faculty to reflect on competencies needed by students and by themselves, the nature of learning and education, and logistics of implementation. These processes require insight on the part of faculty, an open recognition of limits, and a commitment to create a milieu that supports ongoing development.

Schön (1987) proposed that a hierarchy exists in the prestige of knowledge in professional schools. Those who teach basic scientific knowledge have the most prestige, decreasing for those who teach applied science and further diminishing for those who teach the technical or clinical skills of day-to-day practice. This prestige imbalance poses challenges for professional programs who seek to train practitioners. Schön (1987) argued against the assumption that the acquisition of *more* basic knowledge is what leads to competence. Schön (1987) explained that the prevailing relationship between professional knowledge and practice competence (which still exists today) needs to be turned upside down.

The high bar for professional competence is artistry, and we need to carefully examine the path to achieve it. Schön (1987) argued artistry is teachable and not just for the lucky. Schön (1987) described an artist as an outstanding professional, who, faced with an unusual circumstance, novel situation or ambiguous area of practice, goes beyond the basic knowledge, technical and applied skills, and learned values and becomes a creative, innovative problem solver. This ability is based on knowledge, skills, attitude/values and experience, but also moves beyond them. Artistry requires ability, when faced with something unexpected or not-yet-learned, to think about what one is doing as one is doing it (reflection-in-action), and to be able to create solutions when there is no clear right answer.

The idea of reaching beyond the knowledge, skills and attitudes/values typically taught may be a long term goal, but the first step is for a program to create necessary frameworks for the development of artistry and commit to the pursuit. This paper describes an attempt to implement the best methods of assessment of professional competence and to integrate planned self-reflection. The authors chose to assess competence in knowledge, technical skill, attitude, ability to reflect and the development of artistry by focusing on assessment using multiple types of knowing and learning.

The authors present a viable method of comprehensive assessment of competence, relying on pertinent pedagogical theory, and based on literature that includes: outcome measurement, evaluation of competence and portfolios comprised of authentic assessment. The authors present a qualifying examination process, proposing evaluation of a student's ability to

self-reflect and self-regulate as the capstone event for advancement to doctoral candidacy. This is combined into an innovative overall approach to competence assessment in a psychology doctoral program. The authors have dubbed the method the Comprehensive Assessment Method in Psychology (CAMP). The following is a case study of a system of outcome measurement and evaluation of self-reflective practice.

CAMP is a compilation of thirty-five tasks performed during the span of the graduate program (See Appendix I for brief description), and includes a series of three self-reflection/self-regulation events. The second of these events is the Qualifying Examination (QE), used to determine advancement to doctoral candidacy (See Appendix II for brief descriptions). Each of the CAMP tasks is directly linked to at least one of the program's five competency goals. The tasks become more complex and integrated as the student progresses through the program, and tasks become linked to multiple potential competencies.

The authors wanted to establish construct validity on the CAMP and QE, and prepared a survey of both, enlisting experts to review and comment, and incorporated the feedback. The authors have additional plans to compile outcomes on the CAMP and QE as students graduate and the program matures.

I. Types of Learning.

Acquisition of knowledge can be described as: declarative (verbal learning), procedural (skill learning), conceptual (concept attainment), analogical (one-trial learning) and/or logical (problem solving) (Farnham-Diggory, 1994). Farnham-Diggory (1994) also describes three types of instructional paradigms that distinguish novice from expert level (defining "expert" as the standard or level of competence a program has set): behavior, development, and apprenticeship. In the behavior paradigm, novices become experts by accumulating some factor (e.g. speed, knowledge). In the developmental paradigm, novices and experts are distinguished based on the complexity of their personal theories, and their experience. In the apprenticeship model, novices become experts via acculturation into the world of the expert. Farnham-Diggory (1994) stated that these models are mutually exclusive.

Declarative knowledge can be memorized or reproduced, but not necessarily applied to situations. Multiple choice exams are a reliable way to assess this accumulation of facts. Procedural knowledge is the ability to apply information to situations; knowledge that can be demonstrated, but is not well-suited to multiple choice examinations. Examination of procedural knowledge often occurs via work samples, either an unstructured portfolio collection or intensive exams of procedures (e.g. a medical school student's ability to perform a history and physical on a standardized patient - an actor trained to respond with a specific diagnosis).

The program's initial purpose was to create competent professionals; for student's to achieve a minimum standard across all competence areas. To achieve this first step, the authors adopted the concept of acculturation described by Farnham-Diggory (1994) in the apprenticeship model. The authors believe that most graduate students, particularly in programs leading to professional practice, need to integrate their acquisition of declarative knowledge by applying it. Students need to demonstrate procedural knowledge and use it effectively. Competent professionals need conceptual knowledge to be able to fit new learning quickly into acquired cognitive schemes and logical knowledge to understand what is connected to what and what leads to what.

In the graduate education process, development can be described in knowledge, skills and/or attitudes or values (KSA) (Kenkel & Peterson, 2009). The more measures we use to evaluate a student's array of KSA, the more assurance of validity we obtain in our estimation of competence, and the more reliability we can assume in our measures of multiple types of knowing and learning and gauged competence. The acquisition of learning process can be a measure of self-reflection, if specifically evaluated. The learning procedures may incorporate novel, ambiguous or indeterminate situations in order for students to have the situations necessary to develop artistry.

The CAMP is an array of measurement procedures sampling student development across time and compiling evaluated work products. It was designed after reviewing literature on assessment methods and incorporating an array of types of learning. The result is that CAMP incorporates a variety of tasks that utilize different techniques for measurement. Some CAMP tasks are traditional portfolio pieces allowing the student to choose a "best work" in a particular area. Most CAMP tasks are faculty guided projects that assess knowledge, skill and/or attitude (KSA) in the competence area or areas being measured. The Qualifying Exam assesses a student's ability to evaluate his or her own development and performance in each of the programs competency areas by engaging in a planned, evaluated dialogue about his or her assessment of completed CAMP work products.

Schön's (1987) work is theoretically broad. One of his practical suggestions about the journey for artistry is to have students engage in what he called the reflective practicum. The reflective practicum is based on an apprenticeship model, and provides students opportunities to reflect upon their application of knowledge into practice. Pearson and Smith (1985) discuss the importance of engaging students in dialogue and "debriefing" about practical experience to increase the opportunity for learning. The concept of practicum is well established in many professional disciplines, including the psychology program where the authors teach. During the supervision process, students are often prompted to reflect upon their application of knowledge to practice, developing conceptualizations to explain the patient's development of symptoms and integrating their knowledge of theory with the outcome of their practice (Fouad et al, 2009; Stoltenberg, McNeil, & Delworth, 1998).

The authors needed to establish a logical and pragmatic process of collecting student work samples to support the reflection. Toward this end the authors researched portfolio projects. The concept of portfolio, though redefined and expanded for the CAMP, served as a platform for the system. With an attempt to correct for criticisms brought to light in the literature the authors reviewed portfolio systems comprised of authentic assessment. In the next section of this paper we review portfolio methods. This is followed by a discussion of types of learning, comprehensive and qualifying exams, and reflective practice that make up the theoretical framework for the CAMP and QE events.

II. Portfolios.

Portfolios include a collection of authentic assessment pieces, actual work products that estimate what students will be required to produce in a profession. The process of choosing one's "best work" is an act of self-reflection and sheds light on the student's understanding of professional standards. A portfolio provides an opportunity for educators to objectively evaluate both the task and the ability of the student to self-assess. Collecting authentic assessment pieces is a sensible

approach for evaluation of competence and self-reflection. It also is a useful tool for remediation and advisement (Lombardi, 2008).

There are several critiques of portfolios (McGuire, Lay, & Peters, 2009; Lombardi, 2008; Tisani, 2008; Cook-Benjamin, 2003) including that portfolios;

- Are a student's compilation of their "best work" and may not be representative of their typical abilities,
- Are summative, a compilation of many projects over a long period of time, and lose the ability to evaluate individual outcomes because feedback is only at the end, not ongoing. Reflective practice requires continuous feedback to students,
- Are large, complex and lack structure. Reflective thinking needs to occur in an orderly fashion,
- Lack of structure and guidance for students leads to decreased compliance due to the overwhelming nature of the project,
- Create logistical problems such as compilation, storage and electronic technology,
- Require a large amount of work for students, faculty and staff,
- Employ vague scoring systems.

In order to capture and utilize the best of portfolio projects while addressing the criticisms, the following procedures were implemented to address each of those concerns;

- CAMP utilizes both student-chosen and faculty guided tasks/ pieces,
- CAMP is broken down into 35 tasks compiled during the student's entire tenure in the program to provide structure and continuous, specific feedback,
- Specific explanations of the practical importance of each task are provided to students. Each task's rubric clarifies how it leads to competence in a stated professional goal. This understanding of a task's importance increases compliance and motivation (Marzano & Kendall, 2007),
- The entire CAMP is broken down into a developmentally appropriate sequence. The tasks become more complex and integrated over time,
- A holistic scoring method is used consistently across all tasks and a staged rubric approach is used, allowing for on-going and increasingly complex feedback to students that engages them in cooperative learning (See Appendix III),
- Self-reflective and self-regulation events are incorporated to allow students to demonstrate a commitment to lifelong learning and ownership of one's development. Self-reflection and self-assessment events occur at major points in the program; the Qualifying Examination (QE) and pre-QE and post-QE tasks,
- The QE requires students to review and choose their best work *and* their least effective work compiled over their tenure in the program to promote self-reflection and to help them identify specific goals for their development.

III. Integrating Authentic Assessment and Self-Reflection.

A. Process and products.

There is a new emphasis in education on "process" as well as "product" (Lombardi, 2008). Examples of educational products are; papers, exams or professional reports by students. Process

refers to understanding the context, course and means of one's education. Main (1985) discusses the importance of learning *how* to learn; and emphasizes reflection on the process of learning.

The series of CAMP tasks are "products" and the series of three self-reflection/self-regulation events, (QE, pre-QE, post-QE), are "process" events. During the process events, students review CAMP "products," and examine the context of their education and their own development. During the QE events, the ability to accurately self-reflect, self-assess and self-regulate are specifically evaluated. These novel and indeterminate process events were developed to require problem solving, reflection and to utilization of multiple types of learning and knowledge. This embodiment of ongoing reflection and process is a foundation for artistry.

B. Taxonomy for education.

Marzano and Kendall (2007) propose a revised taxonomy for education. They describe six levels of learning processes, each more integrated and complex: 1) retrieval, 2) comprehension, 3) analysis, 4) knowledge utilization, 5) metacognitive, and 6) self-system. The first four levels of learning processes are more familiar. Retrieval is transferring knowledge to conscious awareness. Comprehension is translating knowledge into a form for memory storage. In analysis, we elaborate on the knowledge as comprehended, and in knowledge utilization, the individuals employs the knowledge they wish to complete a task (Marzona & Kendall, 2007). These first four types of processes are relied upon in most academic coursework and in many authentic assessment pieces. The last two levels of learning processes are more complex, and require reflective practice.

According to Marzona and Kendall (2007), in metacognitive processes, students establish a goal and create a plan for the goal, monitor execution of the goal, determine their knowledge mastery, or in the case of this professional graduate program: the extent of their KSA, and the extent to which they are accurate in their assessment of the development of their KSA in the program.

In self-system processes, students identify how important the KSA are to them. Then students identify beliefs about their ability to improve competence or understand the KSA and the reasoning underlying this perception (thinking about their thinking), identify emotional responses to the KSA and reasons for these responses, identify their overall level of motivation to improve competence or understand KSAs and reasons for this level of motivation (Marzano & Kendall, 2007). In addition, practice-oriented professions involve a type of thinking Erlandson and Beach (2008) described as situational thinking (thinking that concerns situational practice) that defines being a professional.

While examining motivation, Marzano and Kendall (2007) explain that most motivated students perceive the acquisition of KSAs as important, have the necessary ability, power and resources to increase their competence, and have a positive emotional response to the acquisition of KSAs.

C. Reflective Practice.

Saltiel (2007) believes that reflective practice is a crucial component in education, but states it is often employed uncritically and without appreciation of its limitations. Methods to incorporate self-reflection into an evaluated educatory experience are not well established.

According to Saltiel (2007), the concept of reflective practice has been so enthusiastically embraced in education it is, "little short of sacrilege to question it." (pp.2). Saltiel (2007) supports Schön's (1987) theory that reflective practice is the counterpoint to the technical rationality of basic science evidence-based practice. Saltiel (2007) believes that technical rationality has been more readily adopted by practitioners and educators because evidence-based practice seeks "order and certainty in a procedural world." Reflective practice engages with ambiguity and with actual experiences of practitioners, emphasizing skill and artistry (Saltiel, 2007). For professional education, both need to be developed in parallel and given equal weight.

Dewey published his influential ideas about education and training thought in 1910 in *How we think.* However, Erlandson and Beach (2008) trace modern query on reflective practice to Schön's publication of the *Reflective practitioner* in 1983. Schön's paradigm of reflective practice and the concept of reflection-in-action have been central in the education literature and are particularly important in the education of reflective practitioners (Erlandson & Beach, 2008).

Boud, Keogh, and Walker (1985) define reflective process as a conscious process by which teachers and learners organize learning activities. The model describes the outcome of reflection, "which may be a personal synthesis or integration of appropriation of knowledge, the validation of personal knowledge, a new affective state, or the decision to engage in a further activity" (p.20). The concept of collecting educational products (that allow maximum understanding of the competence to be achieved) and then having conscious reflection as a specific learning activity fits with Boud, Keogh, and Walker's (1985) model to increase the conscious reflective process throughout the educational experience and maximize learning. Candy, Harri-Augstein, and Thomas (1985) discuss the importance of examining our own learning in a systematic manner. They posit that as learners, we need to examine our learning to understand our own assumptions and constructs, and to precisely identify our learning strategies.

All students have strengths and weaknesses. Competencies in the areas identified as important by a program need to be assessed regularly and thresholds for achievement set. Areas of strength need to be nurtured and areas of difficulty remediated, if possible. The authors agreed with the premise that learners who accurately identify their strengths and weaknesses were much more likely to be motivated students, become competent professionals, seek development in areas in need of growth, strengthen areas of talent, be cooperative learners during graduate training and work within their areas of competence, seeking guidance when necessary. In short, we are developing self-regulated learners (Zimmerman, 2008) within the broader goal of artistry.

Self-regulation is an expansive concept that includes self-reflective practice. According to Zimmerman (2008), self-regulated learners assess their own behavior in terms of their goals and are able to adequately reflect on their development. This process enhances student satisfaction, motivation to improve, optimism, and the likelihood of becoming a life-long learner. Self-regulation involves knowledge acquisition, self-awareness, self-motivation, behavioral skill to implement knowledge appropriately, and the ability to self-correct when necessary. Self-regulation is complex and not innate, but it can be learned. According to Zimmerman (2004; 2008), the components of a self-regulating student are evident when he/she can; set specific goals, adopt strategies for attaining goals, monitor progress, restructure his/her context (social and environmental) to make it compatible with goals, manage time, evaluate methods, attribute causation to results, and flexibly adapt future methods to improve development of competence.

As with all abilities, people vary widely in their talent for and experience with self-reflection. Reflection comes very easily to some, with some effort for most, and is exceedingly difficult for others, as evident in Borderline Personality Disorder (Bennett, Pollock, & Ryle

2005). Each profession determines the standards and qualities required to practice. Educational programs and practice regulatory boards serve as gatekeepers of that profession. Educational programs have the challenging job of determining admissions and competence standards. Academic failure from lack of knowledge is relatively easy to identify. Skills tend to require more time and consideration to evaluate than knowledge, but the most difficult processes to evaluate have been attitude and ability to reflect. Articulating specific professional standards and competencies that deal with values (e.g. cultural understanding or ethical reasoning) can be a hard task, and therefore more difficult to identify as a professional success or failure.

Dimaggio, Vanheule, Lysaker, Carcione, and Nicolò (2009) state that self-reflection is key in healthy human adaptation. They suggest there are four forms of deficits in self-reflection; difficulty in sense of ownership of one's own thoughts or actions, lack of emotional awareness, difficulty distinguishing between fantasy and reality, and trouble integrating a range of different views of oneself and others. Students, particularly students seeking a professional practice degree, who have a deficit in ability to self-reflect, who cannot evaluate their own performance, who are incapable of benefiting from the milieu, or who cannot incorporate supervisor feedback, will not be able to appropriately mature and develop.

D. Comprehensive and Qualifying Examinations.

Schafer and Giblin (2008) explain that doctoral comprehensive examinations have changed dramatically in recent decades, and vary greatly from program to program. Schafer and Giblin (2008) state that comprehensive exams are assumed to have implicit objectives to: evaluate mastery and integration of knowledge, measure skills, serve a gatekeeping function, and serve as a rite of passage. However, Schafer and Giblin (2008) found little systematic discussion concerning the proper role, objectives and approaches for doctoral comprehensive exam processes in various disciplines. They found an increasing level of flexibility in comprehensive exam structures and considerable variation in timing, format and administration. They conclude that this variability may be a healthy indicator that programs are tying exams to their unique objectives. There are few established comprehensive exams measuring or incorporating reflective practice.

V. Description of the CAMP and QE project.

CAMP is comprised of 35 fundamental assignments or categories of assignment (e.g. supervisor evaluations). Each submission lists the competence area(s) it is intended to demonstrate. The objective of the CAMP and QE was to create a method that is: comprehensive (measuring a wide range of competencies identified for professional practice); developmental (was sampled during several points of training and allowed for early remediation); theoretically sound and grounded in educational principles, a teaching tool that promoted awareness, reflection and artistry; created data useful for outcome measurement; reflective of the goals and philosophy of the program; utilized current best practices in evaluation; and creative, flexible and practical.

CAMP requires: a sampling method based on the program's identified competence areas; a practical, efficient method of compilation and tracking; rubrics for each applicable task; and a scoring system. The authors established a theoretical relationship between each competence area and assessment method, as suggested by Klenowski, (2002) and Leigh, et. al. (2007). The authors were able to integrate thirteen, and part of a fourteenth, of the fifteen categories of

assessment method described in the "competency assessment toolkit" for professional psychology (Kaslow, et. al., 2009) (See Appendix IV for description).

The program delineated five competency areas; 1) research evaluation/foundations of psychological science, 2) professionalism (which includes ethics, diversity and advocacy), 3) diagnostics/assessment, 4) intervention, and 5) relationship and communication (interpersonal skills and professional writing). In addition to these core competence areas, the program has a healthcare emphasis where students are taught how to apply the five core areas in interdisciplinary healthcare settings (See Appendix V for description).

CAMP is a compilation of work products (e.g. reports, videotapes, projects, and activities) sampled throughout a student's program to demonstrate development in each of the competency areas. These products are prepared in courses, field training or as reflection tasks (e.g. service project). CAMP includes; an extensive portfolio of required submissions in specific areas (faculty guided submissions), student choice submissions in specific areas (e.g. favorite literature review paper), the qualifying examination (QE) which is an oral defense by the student of their professional strengths and weaknesses using CAMP submissions as a guide (self-reflective practice and self-regulation) and an analysis of their understanding of the program and professional training model, the doctoral scholarly project, and clinical training materials (e.g. practicum supervisor evaluations). These types of assessment methods prompt faculty to focus on content, process, and context rather than grades to evaluate student development.

MWU chose a six-point holistic scoring system similar to that reviewed in Elbow (2003) for *all* CAMP submissions. The system is based on *expected developmental level*. This method changes the tradition of using single numbers to rank complex performances. A score of "3" is the anchor for developmentally expected level. The range for each submission is a "1: novice/beginning level" (where the student demonstrates notable difficulty in the developmentally expected KSAs evaluated) to "6: sophisticated/advanced level (where the student demonstrates well above developmentally expected level)." Using such a scale typically increases inter-rater reliability (Elbow, 2003) (See Appendix III for description).

The best assessment methods are teaching tools in themselves (Kösters & Ritzen, 2003). CAMP introduces students to competencies in the profession, aids in self-reflection, helps in designing and documenting a student's individual program, assists students in making choices and setting goals, and in managing their learning (self-regulation). Student reflection on the competencies is useful if the competencies are emphasized and transparent throughout the curriculum. The developmental nature of the CAMP gives students time to recognize the sequential, cumulative, and interactive nature of competencies in the larger context of their education and profession. Traditional forms of assessment (e.g. discrete multiple choice competency exams) do not integrate development explicitly into the evaluative process nor tell us how students improve and develop (Hessler & Kuntz, 2003).

CAMP provides an opportunity for faculty to monitor student development through actual work products and for students to monitor their own development. CAMP incorporates guided submissions (tasks that are specifically required), and "portfolio" pieces where students choose their favorite work in designated categories. The CAMP submissions begin with basic abilities early in the program, and ends with advanced and integrated abilities. This allows faculty to determine areas of student strength and challenge early in a student's program to focuses on the development of specific professional competencies, and to monitor program outcomes.

Each submission must be reviewed, accepted and is a prerequisite for the next field training, course or submission. If a student has a developmental weakness, it is immediately addressed, and the student can re-submit the CAMP assignment after remediation. Multiple attempts are allowed, though more than one remediation attempt may significantly delay a student's program and may even prevent a student from completing in the required time period for graduation.

The QE was designed for faculty to evaluate a student's self-reflection and self-regulation capacity. Students review the goals, objectives and competencies of the program, their CAMP materials, and reveal their self-assessment. They are not evaluated on CAMP tasks (already evaluated products), but rather on the accuracy of the observation of their own developmental needs and progress (process) considering program goals. Does the student believe they are as good, or as in need of assistance, as the faculty believe them to be in each competence area?

The program's goal was to develop habits of reflective practice and self-regulation. The QE takes place after the second year of full-time study and field training. A "pre-QE" event occurs at the end of the first year and; helps teach program expectations, broader theoretical goals (e.g. self-reflection), and serves a self-regulatory function to help maintain student motivation. It is a self-reflection paper based on specific questions (e.g. What makes your most effective or least effective CAMP submission?), and is evaluated on the 6-point rating scale. A "post-QE" task occurs at the end of the third year, before students embark on a year of full-time field training. During this project, students develop goals for their final year and entry into professional practice, continuing the reflective process and moving closer to areas where they may have developed are developing or *could* develop artistry. They are given the questions to answer (e.g. What is your plan for continued development after graduation and into practice?), and it is evaluated on the 6-point holistic rating scale.

The QE (along with pre-QE and post-QE events) are integral parts of CAMP. The QE determines whether students advance to doctoral candidacy. Several types of qualifying exam procedures were researched, including traditional multiple-choice knowledge based exams, and skill-based exams. The MWU faculty created the QE events to add self-reflective practice, self-assessment and self-regulation as an integral assessment component. The MWU faculty believe that competence assessment measures for the traditional types of knowledge and skill already existed in the curriculum.

The literature reviewed explained the importance of self-reflective practice and attitude, but few publications revealed formats for *evaluating* these abilities. In the QE manual and preparation materials, students are given background materials on the context of their education. MWU created the QE to be an event where the students engage deeply with their own development, competence literature, history of the profession, and information on the program model. The QE events assess these abilities by requiring students to formally present themselves to a panel of faculty and engage in substantive dialogue. Students are given the questions in advance. Then, using their CAMP materials as a guide, students assess their strengths and weaknesses and create developmental plans across each of the program's competence areas (demonstrating accurate self-assessment, active participation in their learning process and practice for life-long learning).

Students have spent time in field training before the QE and incorporate their professional experiences (including experience in reflective practicum) as well. The QE is designed to specifically practice and assess conscious reflection, develop self-regulation and provide framework for a trajectory toward artistry, with a novel educational exercise that

requires introspection and creative solutions for achieving future goals. Students are holistically scored on knowledge of the context of their training, ability to self-reflect, *accuracy* in self-assessment, professional attitude and developmental planning skill.

Survey. In an effort to measure the construct validity of the method, MWU surveyed experts in doctoral psychology education and training, and experienced in program accreditation. MWU sought to establish construct validity of the CAMP and QE. A survey was created and external experts were identified (See Appendix VI for description of Survey Results). All experts responding to the survey indicated that they believed that a student passing the QE would sufficiently demonstrate self-reflective practices at a level appropriate for advancement to doctoral candidacy (M = 1.80, SD = 0.447) on a 4 points scale from 1 (strongly agree) to 4 (strongly disagree). The majority (80%) felt that a student passing the QE would understand the competence areas required in professional psychology (M = 2.0, SD = 1.225), and most (60%) would consider adopting the QE or a similar assessment in their own programs if practical (M = 2.40, SD = 1.140). Four comments provided with regard to the QE recommended greater depth in measuring the competencies, reflected concerns with regard to measuring self-reflection, and regarded the rubric as a strength of the QE.

VIII. Discussion.

As educators and trainers of graduate students in a program leading to a professional practice degree, the authors sought better ways to achieve excellent outcomes, even of ambiguous abilities, such as reflective practice and artistry. The authors suggest that the act of reflection is required for all development; ethical values and actions, multi-cultural awareness and attitude, critical thinking, and decision-making. This entire project became a way to articulate the need for planned and integrated reflection in graduate professional training by everyone involved, students, faculty, staff and administrators to create an environment that strives for excellence.

Recent publications (Kenkel & Peterson, 2009; Fouad, et. al., 2009) help define competencies of knowledge, skill, and attitudes in psychology graduate education and discuss their importance. These concepts apply broadly to professional practice education. The next logical step is to create methods of evaluating those competencies and creating practical outcome measures, (Kaslow, et. al., 2009). One such measure is the CAMP, which draws upon combinations of types of student learning and evaluations of competence assessment.

The QE events are innovative and engage students in planned self-reflective practice, self-assessment and articulation of their developmental plan as a collaborative learner and budding professional (self-regulation). In addition, the QE events evaluate attitude. Attitude has been more difficult to specifically measure than knowledge or skill. The QE events institute a self-regulatory process integrating both work products and educational process of development.

MWU will continue to evaluate the CAMP as a means to measure student learning and program outcomes and the QE as reflective practice. We plan to incorporate many assessment methods including having a blind, outside rater review the post-QE reflection exercise, collect internship evaluations and review the feedback for student's self-reflective competence, and include questions on the efficacy of the CAMP and QE in our alumni survey.

As declared by Roberts, Borden, Christiansen, and Lopez (2005), a culture-shift toward assessment of competence and away from counting hours of practice requires development of innovative and comprehensive assessment methods. This culture-shift is occurring in many areas of graduate study and is particularly interesting in programs that lead to professional practice

degrees. The old adage, "more is not always better" comes to mind when reviewing this culture shift, as does the idea that acquisition of knowledge, technical skills and values can lay the foundation of striving for artistry. Schön's (1987) idea that we are seeking to train reflective practitioners is relevant, and forces us to look for innovation. Schön's (1987) brainstorm that educators can create novel and indeterminate situations for students to develop artistry, is still inspirational, and helps us think beyond the measurement of minimum competence thresholds.

The authors have made some of the changes suggested by the expert reviewers, seeking to clarify definitions, reduce overlap, and refine evaluation methods. Further research on the link between CAMP outcomes and actual practice success is suggested. Further development of practical methods of compilation, electronic submission, storage and maintenance of information are necessary. The authors will continue to reflect on the utility of the CAMP and QE, in their efforts to train artists of professional psychology.

The authors learned several lessons to offer as advice for programs considering adopting a similar method. First, focusing on outcome assessment is a paradigm shift. When we initially described the CAMP method to faculty outside the program, a common reaction was that it would be "too much additional work." The CAMP is not an addition to work on top of what is in a program. It is the spine of our program. It demonstrates achieved entry-level competence in the knowledge, skills, and attitudes of the profession. Everything feeds into competence assessment, including coursework and field training feedback. This is a change from judging a student's competence based on courses completed, grade point average, and field training hours completed. The approach is much more individualized and based on what the student can demonstrate about what he or she knows, what he or she can do, and how he or she thinks. Implementation requires a change of philosophy. Second, logistics are important. We learned that each CAMP task needs a "home." A specific instructor is tied to each task, often in a course or seminar, and is responsible for assuring that students turn it in on time, and that resubmissions, if needed, are completed.

Additional outcome measures will be collected to determine if the CAMP and QE are effective. The authors have prepared an alumni survey with questions on efficacy when our first cohort graduates. We also plan to elicit feedback from supervisors of students at their psychology pre-doctoral internship. Internship is a full-time field training experience as part of a national match and supervisors are not associated with the program. We are planning to have blind, outside raters review the third year self-reflection paper (post-QE).

The authors believe the move to competence assessment and inclusion of self-reflective practice and accuracy in self-assessment are the future of education. This is particularly true in professional practice programs. The CAMP and QE are practical examples of the philosophical shift.

It is our hope to improve the education and training program for our students, contribute to the field of competency assessment, and to develop a learning community that supports aiming for artistry.

Appendix 1. CAMP Contributions & Brief Description.

Key: *IHCE= Integrated Healthcare Emphasis, 1=Research Evaluation & Foundations of Psychological Science, 2=Professionalism (Ethics, Diversity), 3= Diagnostics & assessment, 4= Intervention, 5=Relationship & Communication (See Appendix V for Description)

In Order Due:

Year 1	**Competencies Evaluated**	**Submission Title (Abbreviated)**
1-1	2	Board of Psychologist Examiner's Paper 1
1-2	3	Intelligence Test Administration (i.e. WAIS or WISC) on role-play subject
1-3	1	Analysis of a Psychometric Test
1-4	3	Intelligence Test Scoring (i.e. WAIS or WISC) responses supplied
1-5	3, 5	Intelligence Test Interpretation & Write-up (WAIS or WISC)
1-6	3, 5	Objective Personality Test Interpretation & Write-up
1-7	3, 5	Projective Personality Test Interpretation & Write-up
1-8	2,3 & 5	Intake Video Sample & Document: MSE, diagnosis, diversity, ethics, writing quality, treatment plan, recommendations, rapport, self-critique
1-9	2,4 &5	Rapport Video Sample with explanation of a conceptualization including diversity, orientation and self-critique
1-10	2 & 5	Collegiality & Professional Practice (demonstrating supervisee preprtn.)
1-11	5	Presentation of Choice 1 from any class
1-12	5	Pre-QE- self-reflection end of year one after reviewing the CAMP.
1-13	1,5	Literature Review Paper 1 from any class
Year 2	**Competencies**	**Submissions**
2-1	2, 3, 5	Integrated Test Interpretation (i.e. write interpretation of a tests- sample data)
2-2	IHCE*	Integrated Behavioral Healthcare Assignment
2-3	2, 5	Board of Psychologist Examiner's Paper 2
2-4	2,5	Qualifying Examination
2-5	All	Practicum Evaluations
2-6	1, 5	Literature Review Paper 2: from any class demonstrating scholarship (evidence base to inform an area of practice)
2-7	2, 3, 5	Integrated Assessment Report (administer, score and interpret several tests with a client and write-up a report)
2-8	2, 3 & 5	Intake Tape of Actual Client (with document explaining treatment plan and recommendations, multicultural competence, issues of rapport, ethics and self-critique)
2-9	5	Presentation of Choice 2: from any class
Year 3	**Competencies**	**Submissions**
3-0	2	AAPI application
3-1	IHCE & 5	Adv. Integrated Healthcare Assignment: Completes an integrated healthcare assignment
3-2	1	Research Project, 4 options: proposed PSP project OR acting as research assistant OR having a poster or presentation at conference OR master's prjt.
3-3	All	Practicum Evaluations

3-4	5	Consultation Proposal
3-5	5	Relationship Project (Options: mentoring a student, acting as a teaching assistant or consultant to another program)
3-6	1, 5	Literature Review Paper 3 from any class demonstrating evidence base for an area of clinical practice.
3-7	2	Service/Advocacy Project: Participation in community service, university service or committee work, advocacy effort
3-8	All	Intervention Tape -Actual Client (document explaining choice of orientation, multicultural competence, issues of relationship, ethics and self-critique)
3-9	5,2	Presentation of choice 3: given to audience outside the program (e.g. another department, the clinic, community site with program faculty in attendance.
3-10	5	Post-QE,Student reflection:after reviewing CAMP, describing development since the qualifying examination, goals, and self-care plan for Internship
Year 4	**Competencies**	**Submissions**
4-1	1,5 (IHCE, if ap)	Practitioner-Scholar Project
4-2	All (IHCE, if ap)	Internship Evaluations

Faculty will review student's CAMP & progress through the program (Annual Review of Students). Students who have passed all courses, QE, complete CAMP, and training requirements are ready for graduation. Additional Documents include: Annual Student Review Feedback, Field Training Log Reports, Training Plans, Remediation Plans (if applicable).

Appendix 2. Qualifying Examination Manual Excerpts.

Description: The QE is an opportunity for students to demonstrate their skills in analysis and synthesis of information, self-evaluation and reflective thinking, self-direction in their own learning, professional identity, growth and commitment to that growth, creativity, ownership of their own work, and understanding of strengths and areas in need of development. Students will be graded based on holistic methods and rubric distributed prior to the examination. In the areas of self-reflection and self-assessment, a doctoral candidate in the MWU program is able to:

(Sample Area) Accurately self-assess their competence in the domains and integrate that self-assessment to create plans for growth; Able to accurately assess their own strengths and weaknesses; identify learning objectives & collaborates in the planning of their development.

Structure of the Examination: The Qualifying Examination is an oral defense by the student in the presence of a minimum of two core faculty members of the department chosen by the department chair. The examination is scheduled for a total of 90 minutes. The student will create a PowerPoint presentation on each question for half of the time allotted for the question, leaving the remaining half of the estimated time allotment for follow-up questions by faculty. Please bring CAMP notebook to the exam.

Sample Qualifying Examination Question: Explain your present level of development in each of the five areas and the healthcare emphasis delineated in the developmental sequence of the program. You will present yourself for each competence area and then describe your plan for continued developmental through graduation.

Sample Scoring Rubric for scores: 1, 3 & 6 on: Self-reflection & accuracy of Self-assessment
1: (Beginning/Novice level): Demonstrates significant difficulty or defensiveness in evaluating own performance; not able to identify appropriate strengths or areas for further development and/or misidentifies more than one area or is inaccurate in more than one area; demonstrates little or no appreciation for self-awareness or dedication to self-development based upon personal evaluation; demonstrates significant difficulty in identifying how perceptions & assumptions have changed during his/her development & how this may impact future professional work & attitude. Diversity awareness has gaps, or student is intolerant of interpersonal differences.
3: (Developmentally expected Level): Demonstrates willingness to evaluate own performance, identifies 2 or 3 strengths & areas for further development; and is fairly accurate in self-assessment in all areas; demonstrates an appreciation for self-awareness and dedication to self-development based upon personal evaluation; able to identify how perceptions & assumptions have changed during his/her development & how this may impact future professional work & attitude toward diversity.
6: (Sophisticated/Advanced Level): Demonstrates ease in evaluation of own performance and shows significant insight into many areas of strength and areas for further development; shows clear appreciation for self-awareness and dedication to self-development and is able to self-correct without significant feedback; diversity awareness is sophisticated.

Appendix 3. Holistic Scoring Description- Six (6) point scale.

The scoring method is consistent across all Comprehensive Assessment in Psychology (CAMP) submissions. This method avoids using single numbers to rank complex performances along a single dimension. All CAMP ratings are on a "6" point scale.

A score of "3" is considered a minimum level for an acceptable CAMP submission.

1= Beginning/Novice Level: Student demonstrates difficulty in the expected knowledge, skills or attitude being evaluated.

2= Basic Level: Student demonstrates below developmental expectation in *some* area of knowledge, skills and/or attitude being evaluated.

3= Developmentally Expected Level: Student demonstrates developmentally expected level in knowledge, skill and/or attitude being evaluated.

4= Advanced Basic Level: Student demonstrates above developmental expectations in some area of knowledge, skills or attitude being evaluated.

5= Proficient Advanced Level: Student demonstrates above developmental expectations on all knowledge, skills and attitudes being evaluated.

6= Sophisticated Advanced Level: Students demonstrates sophistication in knowledge, skills and attitudes being evaluated.

Appendix 4. Competency Assessment Toolkit Fifteen Categories of Assessment Method (Kaslow, et. al., 2009).

The authors were able to integrate thirteen (and part of a fourteenth) of the fifteen categories of assessment method described in the "competency assessment toolkit" for professional psychology. The following were integrated as CAMP tasks, and implementation information is provided in parens, if illustrative:

Performance reviews (ratings by field training supervisors), case presentation reviews (in practicum seminars), competency evaluation rating forms (each CAMP submission), consumer surveys (At the MWU in-house clinic), live or recorded performance ratings (CAMP Submissions, 2-8, 3-8), objective structured clinical examinations (CAMP Submission 2-1 using "standardized patients," trained actors to act as clients for students), portfolios, record reviews, simulations/role plays (CAMP Submissions 1-8., 1-9), self-assessment (QE), standardized client interviews (At the MWU in-house clinic), structured oral exams and written exams (QE).

Client outcome data was not being collected at MWU in a format useful for student evaluation, and only part of a 360-degree evaluation was being implemented (peer review was a missing component).

Appendix 5. Brief Description of Competence Areas.

1. **Research and Evaluation/Foundations of Psychological Science:** This competence includes the areas of research and evaluation, test construction, statistics, scholarship, and scientific mindedness. This competence rests on the assessor's foundation of knowledge, skills, and professional attitudes in the areas of tests and measurement, statistics, qualitative methods, and experimental design. This competence also encompasses knowledge of the history of scientific psychology and its clinical applications, including the areas of physiological psychology, neuropsychology, psychopharmacology, cognitive and affective bases of behavior, history and systems of psychology, and social psychology.

2. **Professionalism:** This competence includes the areas of ethics, diversity (defined broadly), self-care, awareness, self-reflection, practice management, collegiality, professional problem solving, a commitment to lifelong learning, critical thinking which underlies all subject matter and professional behavior.

3. **Diagnostics & Assessment:** The Diagnostics and Assessment competence rests on the foundation of knowledge, skills, and professional attitudes in the areas of human development, psychopathology and psychometric assessment. The Diagnostics and Assessment competence requires an ability to acquire and synthesize multiple sources of data into a comprehensive, cohesive and clearly articulated communication form.

4. **Intervention:** This competence requires students to demonstrate an ability to intervene with clients from an articulated theoretical perspective. Intervention is broadly defined to include a variety of activities that promote or sustain well-being or provide remedial or preventative services. Intervention populations are broadly defined (e.g. individuals, groups, couples, families, communities). Students demonstrate knowledge, skills and attitudes congruent with evidence-based practice rationales and can articulate them.

5. **Relationship & Communication:** The relationship competence requires a demonstration of interpersonal skills and effective written and oral communication. Ability to consult and collaborate with others, interdisciplinary teams and members of agencies and organizations is considered part of relationship skills. Evidence of ability to teach/present and manage at a

developmentally appropriate level is also included. Supervisory ability (including the ability to be supervised) is part of this competence.

Health Care Emphasis: The MWU Clinical Psychology Program emphasizes a broad and general training in psychology. In addition, the program has an emphasis of psychological practice in integrated health care settings.

Appendix 6. Construct Validity Survey Method.

A. Participants.

Participants were selected on the basis of expertise in education and training in psychology. All participants had expertise in psychology program accreditation (e.g. served on The Commission on Accreditation of the American Psychological Association (APA), currently serve as consultants to psychology programs for APA accreditation or were a program director of a doctoral psychology program). Eight expert participants were invited and five (62%) agreed to participate and completed the study. All participants were provided with materials concerning the CAMP and QE, including manuals and grading rubrics. Participants were then contacted via email and provided with a link to an online survey evaluating the CAMP and QE.

B. Instrument and Procedure.

The CAMP and QE evaluation survey was a brief, 10-item questionnaire that consisted of 8 rating scale items and 2 open-ended queries. Respondents used a 4-point scale anchored at Strongly Agree (1), Agree (2), Disagree (3), and Strongly Disagree (4) to rate the relative applicability of statements such as "A student who passed all CAMP submissions has adequately displayed the knowledge, skills, and attitude required to successfully begin a psychology internship" and "A student who passed the Qualifying Examination sufficiently demonstrates self-reflective practice at a level appropriate for advancement to doctoral candidacy." Two open-ended queries were free-response items in which the respondent was asked to provide any comments with regard to the assessment of the CAMP and QE.

The survey was placed on the Internet via Limesurvey platform and made available through a URL on the fourth author's server. After clicking on the electronically provided link, respondents were directed by their browsers to the survey site, where they completed the items in 4 screens, including informed consent and debriefing pages. Responses to each item were required in order for respondents to continue to the survey's next section or to submit results. Data was collected automatically and securely on the server and exported into a spreadsheet.

C. Data Analysis.

Due to low sample size, the responses are presented solely via descriptive statistics. Frequency and percentages of responses regarding opinions of the experts surveyed are illustrated in the Appendices. Open-ended responses were evaluated by two independent judges who classified comments into one of eight categories: Competencies, Faculty Training, Health Care Emphasis, Objectives, Rubrics, Ratings and Scoring, Reliability, and Remediation and Repeated Attempts. Ebel's estimated reliability coefficient (1951) indicated consistent interrater reliability ($r_x = 0.84$) as did Pearson's correlation coefficient ($r = 0.737$, $p = 0.004$).

VII. Results.

A. CAMP Responses.

The majority of experts surveyed (80%) reported they believed that a student who passed all CAMP submissions adequately displayed knowledge, skills, and attitude required to successfully begin an internship in psychology (M = 1.50, SD = 0.89) and that CAMP adequately samples the competency areas in professional psychology as defined by the program (M = 1.80, SD = 0.76). All respondents indicated that the CAMP is capable of documenting developmental achievement of competence (M = 1.40, SD = 0.72) and is developmental and graded in complexity (M = 1.40, SD = 0.609). Most of the responding experts (60%) noted that they would adopt the CAMP or a similar method in their own programs if feasible (M = 2.00, SD = 0.884).

The most comments were classified in the Competencies (5), Rating/Scoring (4), and Rubric categories (3). Comments made regarding competencies generally recommended expanding the competencies to include diagnosis and supervision in the field. It was also noted that competencies in the CAMP appeared unclear and overlapped. Some comments reflected a belief that CAMP competencies did not have enough emphasis on the regulatory guidelines for programs seeking accreditation by the APA. Rating and Scoring-related comments indicated confusion as to the utility of the scales and how outcomes are evaluated. Comments regarding the rubric were varied, with some subjects indicating that they found it cumbersome and time-consuming and others noting it as a strength.

Table 1. Frequency (percent) response on response items regarding CAMP and QE.

Question	Strongly Agree	Agree	Disagree	Strongly Disagree
CAMP				
Knowledge skills attitude for internship	3 (60%)	1 (20%)	1 (20%)	0
Adequately samples competency areas	2 (40%)	2 (40%)	1 (20%)	0
Documentation	3 (60%)	2 (40%)	0	0
Developmental and graded in complexity	3 (60%)	2 (40%)	0	0
Would adopt CAMP or similar	3 (60%)	0	1 (20%)	1 (20%)
QE				
Self-reflective	4 (80%)	1 (20%)	0	0
Understands competence areas	2 (40%)	2 (40%)	0	1 (20%)
Would adopt QE or similar	1 (20%)	2 (40%)	1 (20%)	1 (20%)

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