Teaching Case Conceptualization Skills to Clinical Mental Health Students to Enhance Clinical Competency and Cognitive Complexity

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Recommended Citation

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Abstract

A primary purpose of counselor education is the development of competency in diagnosis, case conceptualization, treatment formulation, and intervention. This paper describes a series of experiential case-based workshops designed to directly target and enhance students' understanding of these specific clinical mental health counseling competencies in order to promote student involvement in constructivist learning, develop students' cognitive complexity, and elucidate the thinking of an experienced clinician. This paper provides an overview of the workshop design and implementation, discussion of workshop efficacy with examples, and suggestions for curricular implementation.

Keywords

Author's Notes

Jennifer L. Cline is now at Eastern Mennonite University, Harrisonburg, VA. We have no known conflict of interest to disclose. We received no financial support for the research, authorship, and/or publication of this article. Correspondence concerning this article should be addressed to Jennifer L. Cline, MA in Counseling, EMU, 1200 Park Rd., Harrisonburg, VA 22802. Email: jennifer.cline@emu.edu

Thorough biopsychosocial case conceptualization, accurate diagnostic skills, rigorous treatment formulation, and implementation of effective interventions are vital, interrelated competencies for counselors-in-training (Newsome & Gladding, 2014; Schwitzer et al., 2005). However, counseling students as well as their supervisors have reported student anxiety and skill deficit in the specific practice areas of case conceptualization and treatment planning (Hinkle & Dean, 2017; Jordan & Kelly, 2011; Nelson & Neufeldt, 1998; Skovholt & Ronnestad, 2003). These findings are consistent with the authors' collective experience, which spans more than thirty years in counselor education. In response to this identified area of need, the authors developed and implemented an innovative case-method teaching technique targeting case conceptualization and its related skills. This paper describes a series of experiential educational workshops that we hypothesized would result in improved clinical competency in case conceptualization and a concomitant increase in complex cognitive processes. The purpose of this article is to describe the workshop design and implementation as well as curricular implications for counselor educators. Lastly, we hope to contribute in a meaningful way to an identified shortfall within the counselor education literature (Hinkle & Dean, 2017; Kress et al., 2014; Zubernis et al., 2017), specifically describing a creative and efficacious way to teach diagnostic case formulation.

Need for Student Conceptualization Skills and the Impact on Cognitive Complexity

The Council for the Accreditation of Counseling and Related Educational Programs (CACREP) standards include biopsychosocial case conceptualization and treatment planning, along with related contextual and practice dimensions, as vital components of the Clinical Mental Health Counseling (CMHC) curriculum (CACREP, 2016; Sperry & Sperry, 2020). Case conceptualization describes the methodical process of collecting and interpreting all of a client's clinical information in order to develop a course of treatment that is relevant and feasible for that

particular client (Johnstone & Dallos, 2014; Osborn et al., 2004; Sperry & Sperry, 2020). Case conceptualization provides a way to link a client's presenting concern to a treatment plan by providing a framework for clinicians to organize and synthesize complex clinical data, formulate a diagnostic hypothesis, and develop treatment interventions (Johnstone & Dallos, 2014; Newsome & Gladding, 2014; Sperry & Sperry, 2020).

Effective case conceptualization requires advanced cognitive complexity and may be difficult for counselors-in-training to grasp (Hinkle & Dean, 2017). Nelson and Neufeldt (1998) noted that counselor educators have expressed concern about students' capabilities in clinical case formulation for decades. Additionally, Jordan and Kelly (2011) found that self-doubt about clinical competence has been identified as one of the primary worries of beginning counselors. Self-doubt, or a lack of self-efficacy, is negatively correlated to actual client outcomes (Greene et al., 2016) indicating that this is an area of counselor education that warrants increased attention. Ridley et al. (2017) described the inability of new clinicians to accurately engage in case conceptualization as an enduring crisis of clinical skill and yet, Johnstone and Dallos (2014) found that case conceptualization is a neglected area within most training programs. Furthermore, an examination of the counseling pedagogy literature reveals that little information exists regarding the most effective teaching methods, particularly in regard to teaching diagnostic case formulation and case conceptualization (Barrio Minton et al., 2014; Kress et al., 2014; Zubernis et al., 2017).

Duys and Hedstrom (2000) posit that "case conceptualization skills, understanding the flow and process of the counseling relationship, attending to multicultural dynamics, and the use of counseling theory call for increasingly complex cognitive processes" (p. 8). Broadly defined, cognitive complexity is the ability to integrate and make sense of multiple perspectives (Granello, 2010). Counselors-in-training who are engaging in cognitively complex thinking are better able to

ask questions, listen carefully, admit uncertainty, examine their own beliefs, suspend judgment, and adjust clinical opinions (Granello, 2010). These skills are associated with the ability to take a discrepant point of view, clarity in clinical hypothesis formulation, complex analysis of the clinical relationship, tolerance of ambiguity, enhanced understanding of and responsiveness to complex client affect and behavior, and increased attention to the clinical process rather than subjective, personal reactions (Brendel et al., 2002; Castillo, 2018; Duys & Hedstrom, 2000). Therefore, cognitive complexity is a vital component of case conceptualization, which requires the ability to synthesize and analyze information across various domains (Hinkle & Dean, 2017).

Researchers have shown that counselors-in-training progress through developmental stages as they advance in their programs, first acquiring specific content knowledge and basic counseling skills and later making significant gains in cognitive complexity during applied experiences such as practicum and internship (Duys & Hedstrom, 2000; Granello, 2010). Not surprisingly, when practicing clinicians are asked about their most significant training experiences, they rank practical and experiential learning over academic learning, consistently listing the most salient factors of their training as experiential and interpersonal learning, direct practice, supervision, and personal therapy (Grant, 2006; Greene et. al., 2016). In fact, Grant (2006) found that experiential teaching methods enhanced both the ability to form a solid working alliance and improved case conceptualization skills. Similarly, constructivist processes that are experiential, rely on student involvement, and include appropriate scaffolding are linked to complex, critical thinking (Castillo, 2018; Hinkle & Dean, 2017; Venne & Coleman, 2010). Lastly, Duys and Hedstrom (2000) state that supervised experiential training has a direct impact on developing cognitive complexity and enhances the integration or synthesis of content areas of didactic courses. They argue that, as such,

there are direct benefits to including more experiential training activities earlier in the developmental process for counselors-in-training.

Linking Theory to Practice: Case-based Workshops

In response to the 2016 CACREP standards, as well as student and supervisor feedback regarding perceptions of students' current clinical strengths and weaknesses, faculty developed a series of case-based workshops. These workshops were specifically designed to enhance students' conceptualization skills and to increase cognitive complexity. Case-method teaching in counseling involves the presentation of a clinical case to students for analysis and discussion (Jones & Russell, 2007). Through the case study, students are drawn into the details of the case and are encouraged to develop clinical hypotheses and evaluate possible treatment considerations for the client's presenting concern.

There are multiple variations on the case-method technique, including the use of student actors as stand-ins for clients, who can then be interviewed by counselors-in-training (Clarke et al., 2017; Grant, 2006; Osborn et al., 2004); culling client dilemmas from literature and popular fiction (Cook, 2018; Gibson, 2007; Schwitzer et al., 2005); exploring clinical constructs in autobiographies (Harrawood et al, 2013); and the use of Transparent Counseling Pedagogy for a dramatized demonstration of a clinical dilemma (Dollarhide et al., 2007). Generally, all of these methods present real-life client dilemmas that students are likely to encounter in their future practices. In these presentations, counselors-in-training are presented with complex, authentic client difficulties that they must organize into themes and workable dynamics in order to develop an effective treatment intervention (Jones & Russell, 2007). Additionally, the cases or experiential demonstrations are presented as a realistic clinical demonstration for the purpose of promoting student involvement in constructivist learning and to elucidate the thinking of an experienced

clinician (Dollarhide et al., 2007). Specifically, this type of "experience with the counseling environment and exposure to clinical thinking can give students the chance to practice thinking as a counselor" (Dollarhide et al., 2007, p. 242).

Case-method teaching in counseling typically begins with the instructor presenting a case salient to the course objectives (Jones & Russell, 2007) and offering a general introduction to the client, including the presenting concern and any relevant history (Schwitzer et al., 2005). The instructor next works to help students outline facts and themes which eventually become streamlined into the framing of the central issues. Finally, students are supported in making theoretical inferences about client concerns, developing a diagnostic hypothesis based on central themes of the client's presentation, and articulating a course of treatment that is tailored to the client (Jones & Russell, 2007; Schwitzer et al., 2005). The authors based our own experiential learning workshops on the general principles of case-method teaching. The phases of our workshop design are detailed in the following sections.

Pre-Phase: Design of the Case-Based Workshops

Class Requirements

The case-based workshops described here were a compulsory part of the CACREP-accredited CMHC Program curriculum at a mid-sized comprehensive university. Workshops were scheduled on a monthly basis, and all CMHC students were required to attend at least four of six workshops. The workshops were facilitated by a Resident in Counseling and the first author, an adjunct faculty member who is a Licensed Professional Counselor and Approved Clinical Supervisor.

CACREP Standards Addressed

The 2016 CACREP standards include biopsychosocial case conceptualization and treatment planning as vital components of the CMHC curriculum (CACREP, 2016; Sperry & Sperry, 2020). Addressing this guidance, these experiential workshops focused specifically on the following CACREP standards:

- Principles, models, and documentation formats of biopsychosocial case conceptualization and treatment planning (CACREP, 2016, Section 5, C.1.c.),

- Diagnostic process, including differential diagnosis and the use of current diagnostic classification systems, including the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* (American Psychological Association [APA], 2013) and the International Classification of Diseases (ICD*)* (CACREP, 2016, Section 5, C.2.d.), and

- Intake interview, mental status evaluation, biopsychosocial history, mental health history, and psychological assessment for treatment planning and caseload management (CACREP, 2016, Section 5, C.3.a.).

Pre-test

Prior to attending the workshop series, students (*n* = 44) were asked to complete a pre-test. The pre-test was a 9-item self-report assessment which captured students' degree of *knowledge, experience,* and *confidence* in each of the previously mentioned CACREP standards which closely relate to case conceptualization (CACREP 2016, Section 5, C.1.c., C.2.d., and C.3.a.). For instance, students were asked to indicate on a Likert scale, ranging from 1 to 10, their "degree of *knowledge* with regard to principles, models, and documentation formats of biopsychosocial case conceptualization and treatment planning."

Case-Based Workshop Curriculum

Using case-method techniques, each workshop was developed around a specific case presentation that incorporated the complexities of actual client material that had been censored for privacy and confidentiality. Clinical presentations were intentionally varied across age, gender, race, ethnicity, socioeconomic class, and diagnostic presentation. Although similar to the unfolding case study (Azzarello & Wood, 2006), this case conceptualization workshop varied from traditional case-method teaching in that the facilitators planned a "reveal" type format, where information would be delivered incrementally, based on students' responses and requests for additional information. This format is similar to the National Clinical Mental Health Counseling Examination (NCMHCE). The NCMHCE (Center for Credentialing and Education, 2018) is an examination based on clinical simulations that consist of three clinical components: an introduction to a scenario, information gathering (the exam taker is expected to gather all relevant clinical information), and decision making (the exam taker makes clinical judgements regarding diagnosis and treatment planning).

Active Phase: Implementation of the Case-Based Workshops

After identifying the teaching case, facilitators organized students into small groups of five to eight participants, with first-, second-, and third-year students represented in each grouping. Writing materials were provided at every table and students were encouraged to use *The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* (APA, 2013) as well as tools such as genograms and timelines to help them organize their thoughts. Students were initially offered a brief introduction to the client and their presenting concern. Then students were asked to work with their team members to analyze provided information and generate a rationale for what information was most salient to know next. Students could ask for additional information

about factors such as the client's family history (both family of origin and family of procreation), medical history, substance abuse history, risk of harm, work history, social history, trauma history, and legal involvement.

Throughout the discovery process, as each small group made their request for further information, they were asked to continue to articulate a thoughtful rationale guiding their request, answering questions such as, "what are you curious about," "what hypotheses are you working to confirm," or "what are you working to rule out?" Each small group would ask for the desired information, including the rationale, in front of the larger, whole group, but only the small group would have the answer "revealed" to them. Each small group would process their newly acquired information and then be asked again, "what do you need to know next?"

Students were encouraged to be strategic with their inquiries by limiting the questioning cycle to only eight rounds, requiring them to focus on the most salient information in spite of the breadth of information they potentially had at their disposal. After the various cycles of information gathering, each small group worked to conceptualize the case and reach a diagnosis, which they then presented to the whole group for discussion. At that point in the workshop, the large group of participants were guided through a process of differential diagnosis arriving at an agreed upon diagnosis.

The facilitators observed that in the initial workshops, the diagnostic discovery process took all of the workshop time, usually 90 to 120 minutes. However, as students progressed in their diagnostic skills and became more efficient in their work, the facilitators found they had sufficient time to include topics such as treatment planning from different theoretical perspectives and in various treatment settings as part of the workshop presentation.

Post-Phase: Evaluation of the Teaching Method

Since this was a first attempt using this particular case-based pedagogy, evaluation of the efficacy of the teaching method was imperative. Using a variety of sources to determine pedagogical efficacy allows the strengths of one source to compensate for the weaknesses of another, resulting in a more accurate measurement than any one source (Berk, 2018). Thus, the faculty included multiple methods for gathering evaluation data regarding the teaching process including pre/post-test assessments, facilitator observations, and student feedback.

Post-Test

After completing the workshop series, student participants ($n = 41$) completed post-test assessments, designed to capture students' self-assessment of their *knowledge, experience*, and *confidence* in each of the identified areas relating to the clinical skills of case conceptualization (CACREP 2016, Section 5, C.1.c., C.2.d., and C.3.a.). A non-parametric test was used to compare students' pre- and post-test responses on the assessment items. Findings indicated that students perceived a significant increase in their *knowledge, experience*, and *confidence* in all three CACREP standards specifically addressed in the case-based workshops. Reliability analysis via Chronbach's alpha showed adequate reliability (.98).

Furthermore, students were asked to indicate on a Likert scale, ranging from 1 to 5, the degree to which they believed the case-based workshops contributed to the increase in their *knowledge, experience*, and *confidence* in each of the areas related to case conceptualization. Students attributed a moderate to significant increase in their learning to the workshop experience. Moreover, students' self-assessment of their improvement was supported by facilitator observations, which will be discussed in the next section.

Facilitator Observations

The facilitators captured their observations of the student participants over the course of all six case-based workshops in the form of anecdotal notes. The notes focused primarily on students' activities, interactions, and thinking processes as evidenced by their presented rationales and clinical reasoning. These notes enabled the facilitators to capture their observations in the moment, as an additional tool for evaluating the workshop process and assessing student skill development (Perrone, 1991). After reviewing the anecdotal notes, the authors identified several themes that were relevant to the construct of cognitive complexity, specifically questioning skills, hypothesis formulation, and attention to complex clinical presentations which are discussed in detail in the following sections.

Questioning Skills.

The facilitators noted a developing capacity of students to ask nuanced assessment questions that specifically address and answer the diagnostic question while simultaneously supporting rapport building and reflecting a cultural understanding of the client's unique clinical presentation. For example, an early observation from the facilitators' notes was, "students' questions are therapeutic in nature (e.g., what is her motivation?) rather than diagnostic/assessment driven," indicating to the facilitators that students were therapeutically competent but less skilled in the assessment aspect of the process.

However, midway through the workshops, the facilitators observed a cautious but progressing skill in question formation. For instance, the facilitators noted an improvement in the students' abilities to offer rationale for their choices of information as they looked for information to rule out a diagnosis or as an explanation for a piece of known information. Additionally, students were observed asking one another, "What are we NOT hearing about?" in an effort to combat

confirmation bias. Over time it became clear that there was an obvious progression in student self-assurance, within the area of formulating assessment questions, as they demonstrated a developing ability to sort through a vast amount of clinical information in order to focus on clinically significant material and ask questions that drew out the most relevant pieces of client data.

Clarity in Hypothesis Formulation.

As students progressed through the workshops, the facilitators noted that students spent less time working through the diagnostic presentation and demonstrated more accurate application of the DSM-5 criteria (APA, 2013), including working through a differential diagnosis, all indicators of a developing clarity in hypothesis formulation (Dollarhide et al., 2007; First et al., 2014). Improvement in diagnostic efficiency was noted by a student during the third workshop who spontaneously observed the group's increasing ability to "stay focused on what information was needed to make a diagnosis." The student's observation was corroborated by the facilitators' observation that since the process of reaching a diagnosis progressed more quickly, the facilitators were able to move on to discuss treatment planning.

Additionally, accuracy in the process of working through a differential diagnosis is an important element of hypothesis formulation. Midway through the workshops, there was a noted improvement in the ability to engage in differential diagnosis as students worked to differentiate between similar presentations such as Major Depressive Disorder (MDD) with anxious distress versus co-morbid MDD and Generalized Anxiety Disorder (GAD), or how to differentiate between a sleep disorder and sleep disturbance as a symptom of a larger disorder. Toward the end of the workshop series, the facilitators noted refinement of the differential diagnosis process as students attended to nuanced differences such as age progression, severity level, etc. The student participants clearly demonstrated a progressive improvement in the diagnostic process over the

course of the workshops. They were able to reach consensus more quickly and with more accuracy as they methodically applied the DSM-5 criteria (APA, 2013) to individual cases and then worked together to consider confounding factors, rule-outs, and co-morbid presentations as part of the process of differential diagnosis.

Attention to Complex Clinical Presentation.

The last theme noted by facilitators focused on the attention that students paid to nuanced, complex, and sometimes conflicting presentations that clients frequently bring to the diagnostic process. This attention was demonstrated by the questions that student participants asked as well as the tools, such as genograms and timelines, they used to organize the data. Their use of these tools indicated an understanding that the material was too complex and intersecting to adequately hold only in their minds. The facilitators also noted an emerging ability to hold the intersection of case conceptualization and clinical diagnosis as students asked, "how do issues such as pain, trauma, and interpersonal conflict impact/support her pathology?"

However, the ability to attend to complex and conflicting client presentation was likely at the edge of the students' developing clinical competency, as they demonstrated a desire to develop a method that could be applied template-fashion to all cases rather than working with the ambiguity (and subsequent anxiety) of a highly personalized, complex clinical presentation. For example, in workshop four, the facilitators noted that some students struggled with wanting to "make a diagnosis fit" rather than looking to rule out diagnoses. Students commented that they wanted to "rule it in" with the rationale that the diagnosis was "close" and conceptually accurate, even when the client did not meet some aspects of the diagnostic criteria. This same issue re-emerged in a later workshop when students arrived at the correct diagnosis very quickly but struggled with "left over" symptomology and expressed a wish for diagnoses that were inclusive of every symptom.

The three themes identified in the facilitators' notes demonstrated improvement in the clinical skills of questioning, hypothesis formulation, and attention to complex clinical presentations. The facilitators' observations provide evidence of improvement in the students' ability to analyze complex clinical presentations, tolerate ambiguity (with some accompanying anxiety), and take on discrepant points of view, all of which are skills that correlate to the skills related to cognitive complexity (Granello, 2010). These skills resulted in more timely and accurate clinical thinking, less time spent developing problem presentation, and greater depth of problem representation (Dollarhide et al., 2007), which naturally should lead students to a subjective experience of increased confidence in their clinical skills.

Student Participation and Feedback

An unexpected, but rewarding, aspect of the case-based workshops was the level of participation and engagement that students demonstrated in the learning process. At multiple points throughout the workshops, the facilitators noted that all students, at all levels of training, appeared to be engaged and equally offering perspectives. Perhaps even more revealing is the fact that the majority of the students attended more than the required four workshops, and they often stayed after the workshops to continue the discussion, even though they did not receive an external benefit for their attendance.

The exceptional level of student participation and enthusiasm noted by the facilitators was confirmed by spontaneous written feedback from student participants after workshop meetings, such as "I loved it--such a positive charge of energy and real-world context. The format was good, particularly mixing different cohorts and working together with the various clues. Bringing real time problems in made me feel like we were in it with you" and "I found our discussion particularly

fulfilling and illuminating. I really appreciate your willingness to share real-life cases with us…and to take our thoughts with sincerity and openness."

Importantly, anecdotal observations and direct student feedback indicated that the workshops were highly meaningful for students; our experience is corroborated by research (Grant, 2006; Greene et. al., 2016) which shows that practical and experiential learning is highly valued by counseling students. Darby and Lang (2019) posit specific strategies for keeping students motivated and engaged in the learning process. Their ideas are influenced by Pekrun's (Cavanagh, 2016) control-value theory, which postulates that student learners want to feel some sense of control over their own learning and they want to feel that the material they are learning is important and valuable to them. Consequently, Darby and Lang (2019) state that in order to keep motivation and engagement high, student learners must feel a high sense of control and a high sense of value throughout the learning process. Our workshops were successful in capitalizing on the clinical curiosity of students (high sense of value) and in promoting student engagement in a constructivist learning environment (high sense of control).

Implications for Counselor Educators

When conceptualizing these case-based workshops, we began with an observed deficit in our training process related to student anxiety and clinical hesitancy in the specific areas of case conceptualization and treatment planning. In response, we developed and implemented an innovative case-method teaching technique that we hypothesized would result in improved clinical competency in case conceptualization and simultaneously result in an increase in cognitively complex thinking. To that end, we found that our case-method workshop design was an efficacious, flexible, and responsive technique that resulted in exceptional student engagement and improvement in student learning outcomes, specifically in the areas of diagnostic efficacy, self-

assurance, and cognitive complexity. We believe there are a number of factors, discussed in further detail below, which contributed to the success of this approach.

Flexibility and Responsiveness

The workshop design promoted facilitator responsiveness and flexibility in meeting the needs of student learners. This teaching method, combined with intentional observation of student learning, provided formative feedback to the facilitators, which allowed modification of the workshops as they progressed in order to directly address deficits in student knowledge and skills. For instance, in the second workshop it was noted that students believed "that counselors cannot use assessments to make a diagnosis." Students also had limited knowledge about how to utilize a genogram or a clinical timeline as part of case conceptualization and as previously noted, how to formulate assessment questions as part of a clinical interview.

Hearing those statements and witnessing those limitations allowed for ongoing adjustments in the workshops, especially when accompanied by the facilitators' understanding of each cohort's unique areas of clinical strength and weakness. For instance, facilitators noted the students' misunderstanding about the use of formal clinical assessments and in response included formal assessments, accessible to master's level clinical counselors, in the planning of all future workshops. This misunderstanding also illuminated potential points of intervention in specific classes as well. Purposefully reflecting on the progress of student knowledge and skill throughout the workshop series allowed the facilitators to remediate concerns around specific knowledge deficits and to make immediate improvements in content delivery, which is a concrete way of using student learning evaluation to improve quality of instruction (Barrio Minton & Gibson, 2012).

Higher Order Thinking

Malott et al. (2014) posit that more active teaching strategies, such as the use of case studies, result in an increase in higher order thinking. They specifically promote students' ability "to attend to multistage, complex, real-world problems" (p. 298) under the guidance of an experienced instructor. These case-based workshops capitalized on all of these elements, using team-based learning, real world problems, and exposure to more experienced clinicians.

Our workshop design exposed counselors-in-training to the thinking processes of more experienced clinicians (Dollarhide et al., 2007), but it was not a one-way demonstration of conceptualization. Instead, the facilitators worked to develop a co-constructed process that promoted student involvement in experiential learning and encouraged them to practice their own clinical thinking. In addition to elucidating the thinking of an experienced clinician, modeling of assessment techniques and appropriate scaffolding were provided throughout the learning process. Scaffolding (Darby & Lang, 2019) can support new learning and help students make connections with previously acquired knowledge, which can be strengthened in a mutually respectful and collaborative learning environment.

Peer-to-Peer Learning

In addition to learning from the facilitators, the small multi-cohort group format of the workshop design promoted peer-to-peer learning. Students worked across cohorts within their small groups, and they also listened to the full-group hypotheses and requests of other small groups. While it could be beneficial to house these workshops within already established coursework, it would be difficult to create another opportunity to teach across multiple

developmental levels. Malott et al. (2014) suggest that the ideal arrangement for case work is to include small diverse student groups so that learners are exposed to a wide range of ideas.

Additionally, these workshops provided experiential learning opportunities earlier and more frequently throughout the counselor training process, which according to Duys and Hedstrom (2000) has a direct impact on developing cognitive complexity. Furthermore, Darby and Lang (2019) found that early experiential learning opportunities prime the pump by exposing students to material that may be more advanced than their current developmental level. This was likely was the case for our first-year workshop attendees.

Unfolding Case Study Format

Our workshop design used a reveal-type format, similar to the unfolding case study used in the field of nursing (Azzarello & Wood, 2006), where information is delivered incrementally to the participants. This format is comparable to the NCMHCE, which allowed students an opportunity to practice working through information gathering and decision making in a manner that would be similar to their upcoming exam. We hypothesize that the workshop experience may increase student self-confidence when preparing for their licensure exams. While we have not formally assessed for this result, several students have self-reported increased confidence as they approach their exams and other students reported success in preparing extensive case formulations as part of the application process for employment and advanced graduate studies.

Consolidation of Learning

Lastly, these workshops were designed to increase the knowledge and skill base of counselors-in-training in the areas of biopsychosocial case conceptualization and treatment planning. The various methods of assessment provide reason to be cautiously optimistic in concluding that these workshops were a success as demonstrated by improvements in diagnostic

efficacy, self-confidence, and cognitive complexity, each of which we addressed individually but also believe to have had a synergistic effect on the another. Furthermore, we propose that these case-based workshops provided an experiential opportunity for students to consolidate and synthesize the learning of the content areas of their didactic courses (Duys & Hedstrom, 2000), resulting in improved diagnostic efficacy. Courses in psychopathology and counseling theories were understood through their application to real-life clinical presentations rather than solely theoretically conceptualized.

Future Considerations

In future iterations of the workshop series, it would be helpful to refine the assessment of pedagogical efficacy. For instance, while we measured the students' internal sense of making gains in *knowledge, experience,* and *confidence*, it would be beneficial to create a more objective measure to assess the meeting of particular clinical benchmarks. Additionally, although facilitator notes were sufficient for on-the-fly adaptations of the workshops in order to improve efficacy and student engagement, they captured only broad-stroke observations of the overall group process. In the future, it would be helpful to focus on individual student progress as well, particularly noting the student-to-student interpersonal influences on the learning process. For instance, notes described participation generally but not by individual or even by cohort. While students of all cohorts participated, it is the first author's recollection that third year students often led the small group discussions. In addition, there was an increase in participation among students who had begun their psychopathology course. While there is evidence that the workshops were successful as a whole, it would be interesting to note if they were more or less successful for specific students during specific developmental stages of their training.

Lastly, counseling self-confidence as a construct needs to be more robustly defined, especially when highlighted as a student learning outcome goal. This project proposed that the case workshop experience would improve students' confidence as their ability to engage in accurate case conceptualization improved. The pre/post-test assessments indicated that student participants experienced an increase in confidence as their clinical skills increased, and they attributed that increase to their experiences in the workshop. However, while the facilitators noted a steady progression in knowledge and skill development, they also observed that confidence and anxiety continued to co-exist in the participants.

It may be that self-confidence must be considered as a subjective feeling that clinicians need "enough of" but "not too much of" in order to be competent. Early on, lack of self-confidence could be thought of as clinical hesitancy, which may negatively affect counseling outcomes, but later it could be seen as clinical uncertainty, which may indicate a more appropriate level of self-awareness. In other words, these observations of students' experience of self-confidence could actually reflect developing cognitive complexity as defined by the ability to adjust one's clinical opinion and the ability to admit uncertainty (Granello, 2010) and could reflect a more accurate evaluation of one's own clinical skills rather than a simple lack of confidence. A more nuanced look at what subjective feelings were underlying the facilitators' observations would be helpful to better understand this phenomenon.

Conclusion

In conclusion, these experiential, case-based workshops were designed to capitalize on the best aspects of case-method teaching while adding an innovative and creative reveal-type format. The utilization of this experiential pedagogy improved both the learning process itself and resulted in positive student learning outcomes. Our experience of student participation, engagement, and

enthusiasm correlates with research (Grant, 2006; Greene et. al., 2016) which cited practical and experiential learning as the most significant training experiences for students. These observations and comments indicate that the workshops were successful in capitalizing on the clinical curiosity of students and in promoting student involvement in a constructivist learning environment. Ultimately, students were experientially engaged in exploring complex clinical presentations, exposed to the thinking process of more experienced clinicians, and fully engaged in practicing their own clinical thinking. Our review of this process revealed limitations and highlighted areas for improvement, however, we ultimately find that this was an especially engaging and successful pedagogy for teaching case formulation to student counselors.

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