"There Is Nothing As Practical As A Good Theory" (Kurt Lewin[1])

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Introduction

The title of this article defines its purpose: the authors suggest a way to create an experience-proven, practical, end-of-the-curriculum course for students in health administration that builds on well-respected theories of adult learning. This is not always the case in schools of business, education, public health, medicine, and other units that provide education for the field. Warren Bennis, a champion of leadership practice and research, espoused, "Business schools are on the wrong track. [They] face intense criticism for failing to impart useful skills, failing to prepare leaders, failing to instill norms of ethical behavior – and even failing to lead graduates to good corporate jobs".[2] This statement carries both weight and a call to action. This research note responds to both these challenges by translating the relevant literature of an educational curriculum approach to "impart(ing) these useful skills" and proposing workable solutions to make this 'academic' knowledge work in health administration settings. The stand-alone capstone course focuses on synthesizing material from all courses in a program to respond to the challenges of an unstructured series of problems, opportunities, conflicts, personnel concerns, financial requirements, and policy imperatives, all without a readily identifiable, single, workable, cost-effective solution.

Learning Styles

For context to help understand why the capstone approach works in higher education, we used the Learning Cycle developed by David Kolb[3] (Figure 1). Since it is a cycle, learning occurs in all four quadrants. Where one enters the cycle is not as important as engaging in each of the four processes. One can start anywhere: concrete experience (having a job as a financial analyst), reflecting on that experience (reviewing your performance and using feedback from others), conceptualizing the activity (relationship of revenue, expenses, liquidity, and surplus or profitability), or experimenting (using an integrated software program). Students are challenged in all phases; the role of faculty is focused more on being a resource rather than a content provider or lecturer. Presenting solutions to problems or knowing the answers is less important than knowing how to find answers and sometimes how to ask a different question to define the parameters for action.

Summary of Relevant Literature

Complementing Kolb's Learning Cycle as a framework for analysis, Inamdar and Roldan[4] define four abilities highly prized by employers: "theoretical, practical, applied, and reflective" skills. Students in health professions (and many other fields) are exposed to content in didactic courses, internships, seminars, laboratories, videos, and mentorships with the aspiration that the attributes will be enhanced. Seidel et al. (2022)[5] conducted an extensive review of the research on Problem-Based Learning (PBL) in capstone courses. They conclude that case studies, whether real or fictional, provide students (and executives in professional development programs) with an opportunity to integrate and apply content from their academic programs and courses. We support Stinson and Miller's[6] (1996), who stress that capstone experiences must reflect the current state of administrative, managerial, and leadership trends. When capstone courses result in high-quality proposals, they integrate material from various sources through which the students have had to engage, analyze, reflect actively, and test hypotheses. This completes the Learning Cycle as applied in a capstone course.

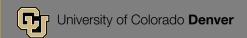[1] Lewin, K. (1943). Psychology and the process of group living. Journal of Social Psychology, 17, 113–131.

[2] Bennis, W. O'Toole J. (2005). Why Business Schools Have Lost Their Way. University of Southern California Center for Effective Organizations. Publication # G 05-6 (478), February 2005, Pg. 1.

[3] Kolb DA. Learning Style Inventory. Boston, MA: McBer & Company, 1976.

[4] Inamdar SN, Roldan M. The MBA Capstone Course: Building Theoretical, Practical, Applied, and Reflective Skills. Journal of Management Education, 2013, 37(6) pp 747-770.

[5] Seidel L, Lewis J, Ritvo R, Kent K. Using Problem Based Learning to Prepare Students and Improve Academic Programs. Journal of Health Administration Education, forthcoming, 2022.

[6] Stinson J, Miller R. (1996) Problem-based learning in business education: Curriculum design and implementation issues. New Directions for Teaching and Learning. 68 (Winter), 33-42.

THE ILL-STRUCTURED PROBLEM

Savery [7] (2006) defined the major elements of a successful capstone, problem-based learning experiences. Ill-structured cases allow students to apply what they have learned in the academic program and reinforce that students have primary responsibility for designing, analyzing, developing hypotheses, action plans, and assessment methods. Using a team approach, students reinforce the concepts of how to create and succeed in a high-performing team. This can include peer reviews and self-reflections on both the case content as well as the process throughout the capstone.

What is an ill-structured problem? Most healthcare executives would smile, thinking it is what they spend time on all day long! Wilkerson and Gijselaers [8] stress that these situations must be "ill-structured, multi-disciplinary and meaningful." Without one obvious solution to a multi-dimensional situation, students are compelled to diagnose using their tools sharpened through experience, coursework, internships, networking, and mentoring. Unlike many cases presented succinctly in textbooks or professional journals, ill-structured problems contain a wealth of data; students must glean relevant, helpful information from reams of figures, tables, policies, and numbers. The availability of so much information on the internet can help and hinder understanding a situation and develop strategies to respond in real and fictitious cases. [9] Ill-structured problems are unique to a stand-alone capstone course based on PBL; they have no specific disciplinary focus (e.g., finance). Thus, students are challenged to use their repertoire of skills and insights to address multi-disciplinary, multi-faceted problems. These ill-structured problems lead to more "real world" experiences. All leadership challenges are multi-faceted and ill-defined. Hence, these experiences develop students' analytical, problem-solving, professional, and ethical decision-making skills.

The ill-structured problem data is, at best, a guide to ponder. While financial statements contain many statements, they may not reveal the extent of a system's obligations. Human Resource statistics usually do not reveal the culture of what it is like to work in a system. Patient census data can reveal a lot about a facility's services and programs but can obscure the treatment process, its impact, and the organization's reputation.

REASONS FOR INCLUDING CAPSTONE COURSE

What are the pedagogical reasons for developing and implementing an ill-structured capstone project at any higher education level? Adapting Wagenaar's (1993) [10] concepts, we believe any of the following can apply; capstones excel at:

1. "Integrating and synthesizing content" from previous courses
2. Translating these lessons to a real or fictitious case study that has multiple possible roots, options, deviations, and solutions
3. Exploring how the variety of perspectives on a problem (e.g., financial, service-orientations, marketing, policy) lead to different potential action steps
4. Assuring that relevant assessment metrics are developed as part of the planning process and not just tacked-on as the project nears its conclusion
5. Requiring critical thinking
6. Understanding how different values (e.g., political, religious, cultural, economic) and how a profession's history help define today's experiences and tomorrow's opportunities and challenges
7. Defining 'problems' and forming the foundation for decision making
8. Empowering students to engage, preferably as a team, to discuss, prod, explore and find consensus proposals to present to the faculty/teacher and other students

The capstone course and experience will achieve its goals when faculty, mentors, preceptors, and other professionals input its development. Like all aspects of a curriculum, the capstone must have clear learning goals, objectives, and assessment criteria. These should be aligned with the program, department, and college missions, goals, and values. The capstone, by definition, should be scheduled at or near the end of the academic program.

[7] Savery J. (2006) Overview of problem-based learning: Definitions and distinctions. Interdisciplinary Journal of Problem-based Learning. 1(1), 12-14.

[8] Wilkerson L Gijselaers W. (1996) Concluding comments: Problem-based learning in higher education. 9New Directions in Teaching and Learning. 68:101-104, page 102.

[9] Green J, Aziz T, Joseph J, Ravanam A, Shahab S, Straus L. YouTube enhanced case teaching in health management and policy. Health Professions Education, 2018, 4(1) 48-58.

[10] Wagenaar TC. The capstone course, Teaching Sociology. July 1993: 21(3), 209-214.

If the above reasons for including the ill-structured problem-based capstone case experience in a curriculum hold, Schritter[11] outlines expected results beyond integrating curriculum and course content.

1. These projects "improve confidence and self-perception" by offering the opportunity to demonstrate performance, not just potential, on a sustained project.
2. Capstone projects stress learning new information and applying knowledge gleaned from courses, internships, employment, networking, and other professional development activities.
3. Capstone courses provide a final opportunity while in an academic setting to learn how to be a member of a high-performing team with (hopefully) multi-disciplinary perspectives. This reflects the reality that the health care delivery process intersects with policies, programs, services, finances, and corporate aspirations worldwide.
4. The capstone project can be a CV item since it documents "motivation, drive, planning, and application of knowledge and skills …. A capstone on your résumé is proof to future employers that you have the skills you say that you do."
5. Most faculty and students know that taking a course does not equate to learning that content; we have all heard someone say, "I took a class on that, but don't remember much." A well-designed capstone course allows students to focus on what happens in the world beyond the classroom; experience documents increased learning and application.
6. Deans, program directors, and department heads often use capstone results as integral assessments for accreditation reviews such as AACSB and CAMHE.

ADVICE FROM THE FIELD

The authors have multiple decades of experience structuring capstone courses at several universities. The key to organizing a successful capstone experience is coordinating efforts between faculty, industry leaders/project sponsors, and university administration. The program faculty coordinates the opportunity with the sponsoring organization (if using an actual system) to design the experience. The sponsor supports the students and the program by sharing valuable resources,

TABLE 1: BEST PRACTICES: HOW TO PREPARE FOR A CAPSTONE COURSE

Course Faculty	Industry Leaders/Project Sponsors	Students	University Leadership
Develop capstone design based on student learning objectives selected based end-of-program goals	Identify potential project which can be researched and finalized during the course of a semester/session.	Sign Non-disclosure agreements to ensure confidentiality of sponsoring unit's data and strategic information	Ensure coordination of effort by multiple faulty by encouraging participation in the end-of-the-program capstone project
Organize student teams, with consideration for professional interests	Encourage communication with students through regular meetings	Identify team roles and responsibilities at the outset of the project	Assist faculty in identifying industry leaders/project sponsors
Identify faculty who can be utilized for expertise / coaching	Identify company leaders who may add additional information	Encourage team members to sign team agreements	Encourage students by attending final project presentations
Facilitate connections with industry leaders who may offer "Problem" project	Require students to sign a Non-Disclosure Agreement (NDA)	Identify 1 team member to serve as the project sponsor coordinator	
Structure course with milestone reports to indicate project progression and progress of learning objectives; include peer review at regular intervals	Collect any needed data utilized for team analysis	Utilize project management tools, such as project charter, work breakdown structure, KPIs, etc.	
Utilize faculty experts and industry leaders to assist in review of final project			

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[11] Schritter T. Capstone Courses: What and Why? Colleges of Distinction. 2021.

experience, documents, and data. It is incumbent on the students to take an active leadership role in defining the problem at hand, identifying needed analyses, conducting necessary background research to develop options and preferred solutions and suggestions. In a semester time frame, the capstone is both intense and exhilarating. Students often identify the capstone course as the most challenging yet intellectually satisfying experience. Not only do students develop, execute and finish an important project, they also develop professional skills and contacts which benefit them throughout their careers. All of the capstone stakeholders need specific responsibilities to build a successful experience. Table 1 guides these responsibilities.

CONCLUSION

The authors believe that the capstone course and experience are rooted in the best traditions, literature, and research on the adult learning process. Using ill-structured problems to challenge teams to dig deeply into an ambiguous case, students, faculty, program directors, deans, and other stakeholders will benefit in many ways. The biggest drawback in the process might be finding or developing ill-structured problems to facilitate the advantages of problem-based learning approaches. As employers continue to demand graduates who can help advance their planning, implementation, and assessments of health services programs, services, and organizations, this near-the-end learning opportunity will be an asset. It is an evidence-based curriculum structure that connects theory to practice.

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