

Problem-Based Learning for Undergrads

A unique approach uses case-study analysis to promote critical thinking

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In a classroom discussion, a typically reserved and tentative student took issue with her fellow student's assertion that working on communication with the client alone before including her family was the best course of action.

"I don't know about that," she said. "I agree the speech-language pathologist needs to work on treating Sarah's aphasia—but isn't it also her responsibility to educate the family on communication strategies so that Sarah's interactions with them are more successful?"

Such discussions take place regularly in a classroom that uses a problem-based learning (PBL) approach. PBL is a learner-centered style of teaching that facilitates knowledge acquisition through social interactions.

Guiding their own learning

At Appalachian State University, a senior capstone course uses PBL to analyze case studies in communication sciences and disorders. Working in small teams, students are introduced to a hypothetical client every two weeks. Each client has a neurogenic communication impairment—such as Sarah, the client who presents with global aphasia and whose family reaches out for support.

As a team, students review each case and generate a list of questions or learning issues that guide their search for knowledge about, for example, the impairment, assessment, treatment, other professionals who might provide services, and support services.

Armed with these questions, each student completes assigned readings and accesses video resources related to the case outside of class. In the hypothetical case of Sarah, those readings might include information on aphasia characteristics, assessment and treatment, and the video resources could include those on aphasiabank.org. Students are also encouraged to compile additional resources. As the semester progresses, the amount of assigned readings decreases, allowing students to assume greater responsibility for independently seeking peer-reviewed resources.

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Team roles

To distribute the workload and facilitate organization, students take on different roles within their groups for each case:

- **Chair**—ensures each person has opportunities to contribute, participate and learn, leads discussion, and keeps the group on task.
- **Scribe**—takes notes, creating a document that includes the identified learning issues and the answers to those issues.
- **Timekeeper**—makes sure that sufficient progress is made each session to complete the case on time.
- **Reference collector**—checks that references used are peer-reviewed and valid, and creates a bibliography of the readings, references and resources used.
- **Participants**—actively contribute by critically analyzing the resources and providing information.

During class, the teams critically evaluate resources, compile answers to the learning issues they developed, consult with peers about their understanding of the material, add more learning issues to reflect new knowledge they have acquired, and develop the final product or tool for working with the hypothetical client and family.

At the end of each case, each group turns in three assignments:

- Learning issues and answers.
- A group resource—such as information videos, leaflets, information packets, treatment session plans or treatment tools—that could be used in the hypothetical situation.
- Reference list.

Each week, a different group presents its assessment and treatment recommendations for the current case. All class members then give feedback, discussing their own group decisions as similar to or different from those of the presenting group.

Students who were initially apprehensive begin to assume autonomy for the learning process, develop an understanding for the clinical problem-solving process, and accept responsibility for their own learning.

Reflection

After each case, students individually complete a written reflection of their own learning experience and perspectives about the process. The assignment is an integral component of the learning process, as it allows students to self-evaluate, examine their learning style, and recognize the value of their experiences and contributions to the group.

Reflections early in the semester often indicate that implementing PBL is not always easy, especially at the beginning—the emphasis on student-led group work makes some students anxious. “I have always disliked group projects because of the worries of someone not pulling their weight in the assignment, or my grade being affected by someone else’s work,” one student wrote. Another indicated that “these cases are hard for me because I am always unable to get an answer, or know what is right or wrong.”

However, as the semester progresses, the reflections typically reveal a transformed perspective. Students who were initially apprehensive begin to assume autonomy for the learning process, develop an understanding of the clinical problem-solving process, and accept responsibility for their own learning. They don't need to rely on the instructor to tell them exactly what they need to know.

“The hands-on structure of the class helped me learn more and retain the material because I was not just hearing the information in a lecture,” a later reflection indicates. In another late-semester reflection, a student says, “The different format was challenging but I learned a lot about adult language disorders as well as my own learning style.”

As a result of PBL, students often report enthusiasm about completing readings and being prepared for class. The instructor serves as a facilitator, encouraging critical evaluation of the case, challenging student assumptions, guiding them toward additional resources, and nurturing professional identity. In this setting, students are exposed to the real-world skills of collaboration and teamwork that are crucial to the development of professional identity, patient progress and professional success.

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