The role of the case study in undergraduate education

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The purpose of this article is to offer an innovative approach to introduce athletic training students to scientific research. As educators, we are always trying to find novel techniques in teaching to avoid staleness. One way to introduce the concept of scientific research is by using a threefold approach: a case study, oral presentation of the case study, and a poster presentation.

First, we must determine what a case study is. The case study has been defined as a "systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest." Case-study research has been used in many disciplines such as therapeutic recreation, psychology, social work, medicine, and athletic training, to name a few. A case study relies on the "direct observation of the event and interviews of the person or persons involved in the event." In addition, in case-study research, the examiner has no control over the event itself.

There is no universal format for writing a case study; it depends on the discipline. This type of research might involve a single-episode approach in which an individual case or event is investigated or multiple case reports that investigate groups or communities. The goal of any case study should be to provide the relevant information in an unbiased, trustworthy, and logical manner. The length of the case study depends on the purpose of the report; the complexity of the injury, illness, or condition; and the type of resources available to the examiner.

Written Case Study

In the athletic training field, the written case study should be an in-depth report of a particular injury, illness, or condition, which begins at the onset and follows the patient's progress to return to practice, work, or daily living activities. Ideally, an athletic training student would select a patient that he or she observed in all phases of the recovery process. The written case study should include the seven sections listed in the sidebar at the top of the next page. The Personal Data section of the written case study contains relevant personal information such as the sport or activity, gender, age, experience, and type of setting in which the injury, illness, or condition occurred. To ensure confidentiality, students should not use identifiers such as the person's name, college or university, or workplace. The patient's history including the type of injury, illness sustained, mechanism of injury, and chief complaint should also be discussed in this section. In addition, any previous medical history that might have contributed to the injury, such as a previous injury or surgery to the affected

Key Points

- Case studies allow students to follow an injury from onset to return to practice.
- Differential diagnoses give students an opportunity to show the analytical process involved in assessment/diagnosis.
- Educators should teach students about their appearance in professional settings.
- Case-study research assignments teach organization, attention to detail, critical thinking, and professionalism.
- Key Words: research, athletic training, report

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Section of a Written Case Study

1. Personal data
2. Physical signs and symptoms
3. Differential diagnosis
4. Results of diagnostic imaging/lab tests
5. Clinical course
6. Uniqueness
7. References

area, congenital factors, or even medication should be addressed. In this section of the written case study, students will develop investigating and interviewing techniques, as well as the ability to read medical notes in patients’ charts.

The second section of the written case study covers physical signs and symptoms. Physical signs and symptoms are the basis on which treatment and rehabilitation are prescribed. All physical signs and symptoms should be included, as well as any observations and results of special tests that were performed during the initial assessment of the injury, illness, or condition. The anatomy, physiology, and pathology of the involved area should be explained thoroughly. This includes bones and muscles (origin, insertion, action, and innervations), as well as other soft tissue such as bursae, capsules, and ligaments. Students will use material from previous courses, as well as explore other traditional and electronic resources for the necessary information to complete this section.

The differential diagnosis is the next section of the written case study. This section should discuss other injuries, illnesses, and conditions that are similar to the case and how this particular diagnosis was determined. Students must use critical-thinking skills and previous course material to analyze the differences between this and other injuries, illnesses, or conditions that have similar signs and symptoms.

Next, the clinical-course section of the written case study should include an explanation of the treatment and rehabilitation the patient received, as well as the progress of the patient throughout his or her recovery. In addition, the outcome and the prognosis should be discussed. Any psychological factors that might have influenced the patient’s clinical course should also be explained. Students must use a logical, unbiased approach while completing this section. Concise, accurate information must be stated to enable readers to understand the progression of the patient’s treatment and rehabilitation.

Uniqueness is the next section of the written case study. In writing this section, students should answer the question, How is this injury, illness, or condition different from the expected outcome and what makes it unique? The student must state reasons and examples of why this particular injury, illness, or condition is different from similar ones. Students will need to review current literature and interview allied health professionals to obtain this information.

Finally, references should be cited in the written case study, using the *American Medical Association (AMA) Manual of Style*’s citation style. A numerical list of references should be included at the end of the case study. Students will need to research the proper citation formats in the *AMA Manual of Style* to be able to adequately complete this assignment.

The written case-study assignment allows students to take one injury, illness, or condition from its onset to return to practice, work, or daily living activities. It encompasses didactic information gathered throughout the curriculum and therefore calls for integrating knowledge and ideas and applying them to one project. Students must progress logically through each step of the written case study as they prepare their papers. Educators must stress what the desired learning outcomes are in each section of the written case study. In general, students will develop their writing

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### Student Skill Development

- Investigating/Interviewing individuals
- Exploring traditional and electronic resources
- Developing critical-thinking skills
- Analyzing information
- Approaching research logically
- Developing a writing style
- Developing a professional attitude
- Developing organization
- Learning preparedness
- Developing attention to detail