## 906. Iterative Development Of Challenge-Based Modules In Biotransport

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Challenge-based modules in biotransport are used exclusively in introductory biotransport courses at our institutions. Many of these modules have been exchanged and improvements suggested to the original developer. For example, students at Vanderbilt were taught blood rheology using a module based on the challenge: "What precipitates sickle cell crisis?" The following semester, the module was adopted at the University of Texas. However, stimulated by events arising from the Summer Olympics, the challenge statement was changed and an ethics component was added. Students were commissioned to prepare a report on the biotransport advantages and dangers to an athlete following infusions of packed cells before a race. The resulting "blood doping" module was considered to be a great improvement by the original developer at Vanderbilt inspiring him to integrate this improved module with an existing module on gas exchange, and to develop new materials that tied the two together. This allowed students to compare the relative benefits of enhanced tissue oxygen delivery with the deleterious effects of increased blood resistance in a quantitative manner. Our experience with exchanging modules shows that although there is a substantial time commitment to the original development of a module, effective modules can be easily adapted by others and challenges can often be altered without the necessity of making substantial changes to the module content. In addition, authors find it easy to improve their own modules on successive iterations.
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