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**Modified Team-based Learning (TBL) as a tool in Problem-based learning (PBL); Observations and Lessons from Year One**

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Modified Team-based Learning (TBL) as a tool in Problem-based learning (PBL); Observations and Lessons from year One., Donald A Molony, MD. UTHSC-H Medical School, Houston, TX, 77030. PBL Executive Com

Both TBL and PBL attempt to maximally engage the learner and both are designed to encourage interactive teaching / learning. PBL is student centered. TBL, in contrast, is typically instructor centered. The PBL Executive Committee of the UTHSC-Houston Medical School, in an attempt to capture the pedagogical advantages of PBL and of TBL, implemented a unique PBL experience into the ICE/PBL course during the final block of PBL instruction in year 2. PBL cases provided the content knowledge for focused learning. The subsequent, related TBL exercises fostered integration / critical thinking about each of these cases.

A number of observations emerged from our first attempt at this hybrid teaching approach. First, students' abilities to think critically about complex subject areas such as acid-base or coagulation abnormalities evolved significantly during each 2 hour TBL session. Learning in this context, appeared to be most effective when students were obligated to struggle with USMLE-type questions based on clinical vignettes. Furthermore, short cases in a PBL framework coupled to TBL were observed to be effective in encouraging a rich PBL experience. Second, during a typical 2 hour TBL session, students improved their skills in dissecting out the pertinent findings of a clinical case as might appear on the USMLE step 1. Third, TBL could be used effectively to encourage full student participation and to gauge student knowledge obtained in the antecedent linked PBL case. Fourth, the TBL sessions following each PBL case did not diminish the degree to which learning was student centered within PBL.

Conclusions: TBL can be used to support / re-enforce the specific "content" educational goals of individual PBL cases and the broader PBL goals of critical thinking and clinical reasoning without diminishing from the student-centered PBL experience. TBL can be used to efficiently teach /review large bodies of material introduced but not fully explored within the antecedent PBL cases.