Editorial

>> Marc Cheves, LS

Competence and the State of Education

Last year in my July/Aug editorial I included some text written by Dick Elgin about the state of education for young surveyors. Canadian surveyor and educator Barry Kavanagh responded with a letter to the editor and promised to follow up with an article. You'll find his article in this issue! It appears that our neighbors to the north share the same problems with their education system that we do. Kavanagh's article goes to the heart of the education problems that are affecting young surveyors. As the old saying goes, "If we always do what we always did, we'll always get what we always got."

Just as we were going into production on this issue, Elgin sent another article he wrote for the *Missouri Surveyor*. In it he discusses the somewhat sad state of U.S. Public Land Survey System education, at least for some licensing applicants in Missouri. I suspect that other states are experiencing similar problems. Here's an excerpt of the article:

"In order to become a Missouri Professional Land Surveyor, one must take and pass the Missouri State Specific Land Surveyor Exam (among other requirements). All Boards that use the NCEES exams (LSIT and PLS) also develop their own two-hour exam that tests the candidate on state specific items such as Minimum Standards, riparian boundaries, Board rules and regulations, the state's GLO system, resurveys on the state's U.S. Public Land Survey System, and State Statutes relative to land surveying. A committee of 18 Missouri PLSs establishes the state specific exam content and develops and reviews the questions.

"The exam format is multiple choice (four choices), except that there are usually two or three or four problems related to resurveys on the U.S. Public Land Survey System that require a "long hand" calculation/solution. These problems are hand graded and partial credit is awarded (where warranted). In these problems, the candidate is given measured coordinates of existent corner positions, and GLO dimensions. One must compute coordinates of intervening lost corner positions. These, of course, are single and double proportion problems, which are the backbone of any dependent resurvey on our rectangular survey system.

"On the exam, a problem situation is given (usually with a sketch) and the candidate must accomplish the calculations and arrive at the required coordinate (lost corner) position. These problems are worth more points than a typical multiple choice problem. Awarding partial credit affords the candidate points

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for solutions that got started correctly, but "went astray" either mathematically or due to the candidate's lack of understanding of the correct procedure or solution. So, the problems are not "all or none" propositions and the grader can examine and judge the solution.

"As one who has worked on the Missouri State Specific Exam for many years, I have observed a general decline in the candidates' abilities to accomplish relatively simple single and double proportion problems on U.S. Public Land Survey System.

"Keep in mind that Missouri candidates taking the Exam must have passed 12 college credits in surveying subjects and also have had years of experience working under a PLS and, the exam is open book. Still, some cannot accomplish a single or double proportion problem involving coordinates and GLO dimensions. It seems something is amiss. Either surveying educators aren't teaching, or LSITs aren't being exposed to these important subjects (which they must if they are doing any resurveys on the U.S. Public Land Survey System.)

"The October 2007 State Specific Exam included a problem involving single and double proportioning (with coordinates and GLO dimensions). Thirteen percent of the candidates got the problem 100 percent correct and received full credit. Thirty-three percent of the candidates received no partial credit because their solutions exhibited no knowledge of how to approach the problem, or did not use any proportioning.

"It is disturbing that 33 percent of those taking the exam received zero credit for this very straightforward problem. Twelve college credits in surveying, several years of practice, and "no clue" how to solve the problem! Do Missouri surveying educators teach these materials? (I hope so.) Do online courses offered by colleges outside of Missouri teach the resurvey rules unique only to Missouri's U.S. Public Land Survey System? (Probably not.) Keep in mind that Missouri has resurvey procedures that are unique to Missouri and different from BLM resurvey procedures. Are Missouri PLSs teaching and "coaching" their LSITs correctly? (They better.)

"In the exam problem, some candidates computed a lost corner position using exactly a GLO dimension and did not apply proportioning (not consistent with Missouri Statutes). In another part, a candidate computed a lost quarter corner in a closing section at the midpoint (not consistent with Missouri Statutes), not taking into account that in the closing section the lost quarter corner would be reestablished at 40.00 chains, proportionate measure, from the section corner (the closing "half mile" being fractional). Oh my! I hope that it wasn't a surveying educator (in Missouri or online), or a Missouri PLS who taught the candidate that either of these were correct!

It seems we need to "get back to the basics" and learn (or relearn) some of the resurvey procedures for the U.S. Public Land Survey System."

The future of the survey profession hinges on the contributions of individuals who play their parts well.

Going Great Guns in Florida!

As our educational survey programs, state societies and national organizations continually seek ways to bring young people into the profession, it's refreshing to hear success stories. The Florida Surveying and Mapping Society (FSMS) is a shining example of what can be done. For any state society that wishes to implement any of the many things Florida has done, my advice would be to follow the number one rule that Florida has followed: How can we get the fastest result? Marilyn Evers, executive director of FSMS, shares the keys to their success in this issue.

Survey Reports

We welcome onboard well-known educator and seminar presenter Knud Hermansen. Surveyor, engineer, and attorney at law, Hermansen is a professor in the Surveying Engineering Technology program and the Construction Management Technology program at the University of Maine. He has agreed to write an occasional series on Survey Reports, the first of which appears in this issue. When I practiced in Texas we occasionally prepared Surveyor's Reports but they were not legally required. Since I left Texas, minimum standards have been enacted that require the reports under certain circumstances (*e.g.*, something was revealed during the course of the survey that needs explanation). The report can take one of three forms: written, face-to-face with the client, or as a note on the face of the map. Also, title companies will request a report if the survey reveals something, and the reports can include what research was performed, what was found and set, and the conclusions reached or reasons why a corner was set. But as Hermansen says, the subject is not taught in school, so most surveyors, when called upon, will simply wing it. The series will provide a sound basis for preparing these reports.

That's Not All Folks!

Rounding out the "education" focus of this issue is an article by contributing writer Tom Liuzzo about his experiences with Old Dominion University's distance education program. Another one of our writers, Joe Betit, had a hand in establishing the program, so we've been hearing about it for years. Tom, who lives in Arizona, makes several excellent points about what I call continuous education (as opposed to continuing education). It's always been my position that, as non-degreed, OJT folks, our education must be continuous, not just in response to something mandated by the state.

Wendy Lathrop provides a unique perspective on education from the personal and professional side of school unions. And last, but not least, is an article on GIS at the campus of national football champs, LSU.

Fortunately, in the State of Education, there's always room to improve, to grow, to leave a legacy and pass along tools of a profession to well-trained hands. Each of us plays a part. The future of the survey profession hinges on the contributions of individuals who play their parts well.