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# What Should Be Included in a Complete Aviation Education?

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## EDITORIAL

### *WHAT SHOULD BE INCLUDED IN A COMPLETE AVIATION EDUCATION?*

It may be hard to believe, but most faculty members once shared many of the same needs and concerns as today's undergraduate students. Foremost of those needs was to get a job and pay back our debts.

However, after many years in the classroom many of us may have begun to realize that the important point of what an education was all about was missed. Instead of solely asking how and when will we be employed, the question that should have been asked was "What educational knowledge, values, and skills should we really have after all this time, effort, and money?" Or to put the question in a contemporary context, "What constitutes a complete education in general and how specifically does that relate to aviation?"

Alan C. Ornstein, a faculty member at Loyola University of Chicago, suggests that 10 knowledge areas should be considered as a basis for curriculum. In this case, curriculum can be considered as a course of study, various lectures and labs, or virtually any way that we want to look at the educational event or what is required to make a good education complete.

The 10 knowledge areas cited by Ornstein should:

1. Comprise the basic tools;
2. Facilitate learning how to learn;
3. Be applicable to the real world;
4. Improve the learner's self-concepts, awareness, skills, and senses of personal integrity;
5. Consist of many forms and methods;
6. Prepare the individual for the world of technology;
7. Prepare individuals for the world of bureaucracy;
8. Permit the individual to retrieve old information;
9. Be a lifelong process; and
10. Be taught in context with values.

Now consider how many or how few of these knowledge areas were included in your educational experiences. Then, in comparison, consider whether these items are being addressed in a curriculum that you are responsible for teaching. Be objective and rate the education you received or are now giving.

With respect to the basic tools or to be literate in reading, writing, mathematics, computer science, and communication, we as a collegiate aviation community are doing well and trying to do better. Also to consider

are the facts that in aviation, these basic tools may include ratings, certificates, and licenses. We'd all probably give a contemporary aviation education very high marks in this arena.

However, concerning the second point, if we try to measure and evaluate how well learning is measured, there is some work to be done. Aviation is a changing world and it is changing quickly. Many situations in such a dynamic environment require that it will be necessary for individuals to be adept at problem-solving and adaptive in their thinking processes. These skills and attitudes are difficult to teach and even more difficult to measure.

Closely following the need for these processes there is a growing need for education to be applicable to the real world. Although the integration of real problems and situations may be found in only small pockets on the current campus, it is becoming more critical every day to learn to participate productively in a dynamically changing society. Problem-solving must be done with real people and real situations.

Considering helping students in improving their self-concepts, awareness, skills, and senses of personal integrity, we have begun to make inroads, but there is a long way to go. A significant focus on these issues is contained in many university statements of purpose or mission but there are still those among both the students and faculty who are slow to acknowledge that the personal, emotional, and spiritual dimension of life is an integral part of the educational process.

## Complete Aviation Education

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One of the major areas of improvement needed in collegiate aviation is the development of alternate forms of delivering the wealth of cognitive messages that we try to "pump" into students with the lecture method. Although the traditional lecture method is what almost everyone is familiar with, the use of computer-based training, simulation, and any time-place independent learning may be a refreshing change to our somewhat staid academic delivery methodology. Educational experts are quite clear that varying the instructional delivery system will provide a more well-rounded and meaningful educational event for both faculty and students.

Today's colleges and universities must be praised for preparing individuals for the world of technology. However, the personality trait that must accompany technological literacy must be adaptability. You must be able to answer the question, "So what do we do now since what was new but familiar yesterday is old today?"

The well-educated individual must be ready to interface with the world of bureaucracy. In aviation, more so than in many other fields, the interaction with various governmental agencies at the local, state, national, and global levels has become a part of daily life. Regulation and government oversight will be with the field of aviation even with the much talked about privatization; it is best to understand the beast if possible and thus be able to survive and thrive.

The maintenance of a chronological and historical perspective on the moral, social, political, and economic issues in aviation is more important than ever. A famous individual once said, "If we don't remember history, we are doomed to repeat it," so maintaining a contemporary and fluid approach to the dynamic field of aviation but

with a historical perspective (so as not to blunder your way through life) will put you in great shape.

As far as education being a lifelong process, many of you may remember that the flight examiner for your first rating said, "This is a license to learn." How silly those words might have been at the time, but the whole point was that education must be an andragogical process. Andragogy is learning by mature and often older learners; the implication is that such learning should have a beginning, but never an end.

And finally, the best educational experience should be taught in context with values. The acknowledgement of our values with respect to ethics, family, religion, and society is a key point and should be a framework for our daily life. As you begin to "earn your spurs" in the world of commerce and the international arena of tomorrow's air transportation system, you will quickly become aware that others you will come in contact with share similar values and ethics. You'll also find that we are not so different from each other after all and there is more understanding in the world than misunderstanding.

Although the 10 points made by Ornstein were focused on what an education should be like, they are in reality a blueprint for what life is all about or ought to be. A university education should make every attempt to encompass those 10 items as a minimum set of educational goals that all students should experience. How many of the 10 can you clearly identify as having been part of your education or what you give now to your students? If there were less — very unfortunate. If there were and are more — everyone wins.

HRL