

## **The undergraduate accounting information systems course: a brief history**

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### **ABSTRACT**

This paper broadly reviews the topics taught in the basic Accounting Information Systems (AIS) course at the undergraduate level from the 1960's to today. The changes called for from the Bedford Committee of the American Accounting Association in 1986 are discussed as they relate to the introductory undergraduate AIS course and its place in the accounting curriculum. The purpose of this paper is to understand not only what is being taught in AIS, but how academics have decided on the course content.

Keywords: Accounting Information Systems, AIS, Accounting Curriculum, Course Content, Systems Design in AIS

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## INTRODUCTION

What should be taught in the first undergraduate Accounting Information Systems Course? When a student takes the first course in financial accounting you can be assured he has learned about the accounting cycle and financial statements, the content for Individual Federal Income Taxes and other courses traditionally taught in the undergraduate accounting curriculum are very similar at most colleges and universities. However, if you look to an Accounting Information Systems (AIS) course you could find the content includes any of the following: software like Access and Excel, theoretical systems design, software packages, flowcharts and other documentation techniques, internal control and even programing. How these courses got to this point and where they are today is discussed in this paper.

### THE 1960's

One of the points made in a Financial Accounting class is that accounting is the language of business. Accountants are traditionally the organizer, keeper and disseminator of financial information for a business. In the mid 1960's it became clear that information was going to be processed differently. Automation was inevitable. Robinson and Hall wrote about the fact that some accountants wanted to pretend that the change in the way accounting information was being processed was not happening (Robinson & Hall, 1964). It is the natural reaction of some to try keep things the same. Robinson & Hall recognized the need to get faculty up to date. In the same way a good accounting professor understands Tax, Audit, Cost and Financial accounting so that he can make connections in whatever area he specializes in. Accounting faculty now need to understand AIS so they can help students make the additional connections required in a world with automated information processing. Robinson & Hall identified the areas of systems, documentation, a basic understanding of logic and programming along with technology as areas that need to be covered (Robinson & Hall, 1964). In the 1950's and 1960's the technology was punch cards and EDP processing, but it is easy to update the technology for what is being used today. Programming is an area that is not often taught in AIS today. Faculty members in the 60's were reluctant to take on programming in their courses due to lack of expertise. The need for specialization in accounting is relevant here. (Van Wyhe, 2007) Due to the ever expanding technical areas in accounting it is nearly impossible for one person to be an expert in everything accounting related, that includes systems. Programming appears to be one of the areas in AIS that are left to those who specialize in Systems, not something that is taught in an introductory undergraduate course in AIS.

The interdisciplinary nature and need for creativity in AIS was recognized by Welke in 1966 (Welke, 1966). Looking at what is happening in AIS education today it appears he was correct. The article by Welke notes the need for cooperation, not competition and identified a curriculum approach instead of a single course in AIS (Welke, 1966). The grant given to Brigham Young University by the Accounting Education Change Committee in the early 1990's tested the curriculum approach broadly defined by Welk with a new curriculum including a 24 credit Junior year taught by a team made up of not only accounting faculty, but finance, management and marketing faculty as well (Albrecht, 1994). The project at BYU was a success that earned the University a Businessweek #1 ranking for the Accounting Program in 2013. Welke also discusses the qualities that make a systems man by quoting Derby "In summation, the individuals who are most likely to succeed in systems work are people who are able to mix in

higher managerial levels, men who have ambition, integrity, competence an analytic mind, a high degree of creativity, and the personality and persuasiveness of a good salesman. This, indeed, is the complete systems man.” (Welke, 1966)

The person being described by Derby is one that many would describe as the product of a liberal education. The subject of accounting and the liberal arts has been written about and is the subject for a later paper (Campbell, 1930). However, it is safe to say that Welke is calling for, and academics as well as professionals continue to call for students who have the ability to think, reason and communicate. Those abilities help the student in AIS to understand the systems being used by a business and how best to accumulate, process and disseminate information.

### **THE 1970's**

The American Accounting Association has played an active role in the discussion of AIS since 1959. [Committee on Accounting Instruction in Electronic Data Processing, 1959, Committee on Accounting Systems Instruction, 1964, Committee on the Role of the computer in Accounting Education 1969 and the Committee on Information Systems 1972.] These committee reports along with the individual research including the research of the individuals mentioned in this paper resulted in a significant increase in AIS courses from 1972 – 1977 (Wu, 1983). The topics covered in AIS during the 1970's included Systems, technology and documentation, similar to what was recommended by Hall in the 1960's but also included Data processing systems and financial planning and budgeting. Notably missing from the survey done by Wu was programing. This is not surprising when you consider that the 1969 Committee on the Role of the computer in Accounting Education noted that students complained that programing did not have enough to do with accounting and was too time consuming to teach. Wu also noted difficulty with the programing aspect of AIS because it was difficult to integrate with the other aspects of the AIS course. (Wu, 1983)

### **THE 1980's and 1990's**

In the 1986 The Bedford Committee of the American Accounting Association released its report. Broadly it made four points. First accounting is not a narrow discipline, but a process of information development and distribution. Next that learning accounting, like learning other areas is about learning to learn. The third point was that five years of education should be required. Deferring specialized accounting courses until later in a student's academic career and finally recognizing the need for both traditional and computerized accounting systems being taught. (Schultz, 1989) The next logical question is how we go about making those changes. The Accounting Education Change Commission 1989 that was formed as a result of *Perspectives on Education: Capabilities for Success in the Accounting Profession* written by the big accounting firms. The related grants are well documented in other papers (Ainsworth, 2002) (Black, 2012) (Sundem, 1991). For purposes of this paper how to incorporate these points into an undergraduate AIS course is the relevant question. The Bedford Committee report notes that computerized accounting should be taught, and that future accountants need to understand the nature, design and implementation of information systems. In 1988 Davis recognized that AIS is the least defined area of the curriculum and did a survey of employers to find out what they wanted accounting students to know about systems. The striking disconnect between faculty and employers included academics ranking the need to teach spreadsheets in thirty second place

while employers ranked it number two (Davis, 1988). Interpersonal skills were also ranked highly by employers, echoing the call for a “Systems Man” by Welke in the 1960’s. Systems design, specify noted as necessary in The Bedford Committee Report ranked 11<sup>th</sup> by academics and 24<sup>th</sup> by professionals (Davis 1988). A lot of work was done by accountants related to the curriculum for AIS from the 1960’s to the late 1980’s and still there didn’t really seem to be a standard for what should be taught in AIS. Furthermore, the systems area noted by The Bedford Committee was not yet ranked highly by academics or professionals. In 1994 O’Donovan recognized that and accountant is the principle user of financial data and must participate in the process of systems development. The traditional AIS had classification schemes that were inappropriate and insufficient for integration with the information systems from other areas of the organization and that accountants should recognize that accounting information is not just for accountants, accountants need to consider the other information users as well. Being a part of the development team will require accountants to think about information differently (O’Donovan, 1996). The work done on the overall accounting curriculum in the 1980’s and 1990’s has resulted in changes in the undergraduate AIS course including systems being a more prominent area.

## CONCLUSION

When the Accounting Education Change Commission completed its final report in 1999 and handed off its work to the American Accounting Association the AECC recognized that work on the accounting curriculum was not complete (Sundem, 1999). Black and Van Wyhe note the effect accreditation and the CPA exam have on the entire curriculum (Black, 2012) (Van Wyhe, 2007), including AIS. The systems portion of the CPA Exam covers the following: organizational needs assessment, systems design, security, the internet, types of information systems and technology risks, disaster recovery and IT fundamentals. (Becker, 2014) These topics are covered in a variety of AIS courses, but covered in different ways. Organizational needs and systems design can be covered in a textbook and include flowcharting and other documentation techniques, it can also be covered by example with a self-contained accounting software program. Similarly, IT fundamentals can be taught as part of learning to use Excel or Access as well as learning out of a textbook. Although AIS courses seem to be very different on the surface it is just different faculty using various tools to incorporate the same concepts into the accounting curriculum. The result of years of work and study have produced an AIS curriculum that is useful to students and adheres to the principles outlined by academics. It is worth noting that the areas of study include three of the four areas Hall noted for inclusion in the 1960’s; systems, documentation, and technology.

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