In the information age, communication studies become important. Communication departments must do more than emphasize communication competence and develop a professional identity. Changes brought about by the onset of the information age have affected the nature of society. Concomitant with changes in the workforce, the educational system became populist as it accommodated more than the wealthiest and brightest students. In the information age, communication departments began to flourish. Since access to information creates wealth and power, students became interested in learning how to acquire, disseminate, sort, and make decisions on the basis of information. The information society produces a clash of values as well as changes in work rules, education, and diversity compared to the earlier agricultural and industrial societies. Information, unlike agriculture and manufacturing, is also very mobile. Communication professionals must meet the challenge to return the study of communication as an integral part of the liberal arts curriculum. (RS)
Communication--The Modern Approach to Education

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The changes in communication affect everyone in society, particularly those who live in an agricultural state with a small population. Those changes affect the public, the Universities, the subjects and methods of their courses, the students, and those who traditionally employ the graduates. The current revolution in information demands that we become aware of and adjust to those changes.

The purpose of this paper is to argue that the understanding of communication is central to the understanding of the modern world.

The information age is upon us. We have moved beyond the agricultural age, through the industrial age, and currently live in an age of information (Toffler, 1990; Wriston, 1992). These changes have profoundly affected the nature of our society.

Until the early part of the twentieth century, agriculture dominated the society. Most of the population was actively engaged in farming in one form or another. However, in the early part of the twentieth century, the industrial age began to dominate the work force. People moved to the cities to work in the factories, leaving vacant farms that so many of us have seen here in North Dakota. North Dakota did not develop an industrial base, so the population moved to Minneapolis, Denver, Seattle, Los Angeles or somewhere else because the agricultural opportunities were limited and no longer dominated the work force. In essence, the world changed from a society based on growing food to a society engaged
in building tractors. In the late fifties, the work force changed again. The number of people engaged in processing information began to outnumber those who were involved in growing our food or assembling the goods that we consumed. The information age began to dominate the agricultural and the industrial age. Today, more people are employed as managers, sales personnel, secretaries, lawyers, teachers, accountants, etc., than are involved in construction, assembly lines, repair, or farming. Currently, more people are involved in accumulating, sorting, distributing, deciding, and acting on information than there are people involved in producing basic materials like coal, oil or wheat, or assembling those basic materials into usable goods.

Since the activities which constitute work change depending upon the age in which we live in, the confrontation of work forms creates some tension. I remember one confrontation when I was a young man in college, training to become a part of the information age (even though I didn't know it then). I was at my farm home in Fillmore, North Dakota reading a book during the day. The hired man saw me reading when he came in for morning coffee, dinner, and then afternoon lunch. As he left to return to the field that afternoon, he pointedly said "I wish that all I had to do all day is read a book." At the time, and growing up in an agricultural and industrial age, I remember feeling put down, like I was lazy. However, that is the conflict. What is work to one age, appears to be not work to another. In 1993, the country western song "Working Man's Ph.D." expresses the same conflict between agricultural-
industrial work and the work of those employed in the information age.

Concomitant with the changes in the work force, the educational system has also changed. Education, the process of learning to read and write in order to discover, process, and make decisions upon information, was not as important in the agricultural or industrial ages as it is in the information age. In the agricultural age, education was not important since the simplicity of farming at that time allowed a child to drop out of school and still become a farmer or a farm worker. Since farming is more individual and the work must be accomplished according to the schedules of the weather and the seasons, in order to become a part of the work force in the industrial age, more education is necessary. As Neil Postman (1969; 1982) has pointed out, in the industrial age, the value of mass education is to teach people to work in the assembly plants. The schools teach students that everyone has to arrive at the same time, be quiet when they are working, to do the same things as others are doing, to eat during predetermined breaks, and to leave at the same time. The assembly lines did not need the content, but did need the socialization, of the schools. However, even if students did drop out of the educational system at an early age, there still were jobs for them in the agricultural or industrial ages.

However, in the information age, education becomes dominant. If there are fewer jobs in agriculture or industry and more in the processing of information, people need more education. With great
foresight or incredible good luck, Lyndon Johnson’s Great Society involved the government in the creation of opportunities for people to join the information society. Guaranteed student loans were created so that everyone, not only the wealthiest in the society, could attend colleges and universities. Furthermore, these institutions were not limited to the brightest but also the average and below average student. Much to the chagrin of professors, the universities became populist and they encountered issues which they had not confronted when only the wealthiest and brightest class of students attended.

In addition to accommodating more than the wealthiest and the brightest students, the schools also need to accommodate those who may not have been able to work in the agricultural or industrial societies but may be able to work in the information society. The handicapped, for instance, may not be able to drive a team of horses or turn a wrench, but may be able to accumulate, sort, and make decisions upon information. Thus the schools must accommodate the handicapped. In addition, previously a student with discipline problems may have quit school to work in agriculture or industry, but must be retained in school to work in the information society.

Thus, because the wealthiest and the brightest no longer dominate the student body, the students and graduates reflect a more diverse society. But this diversity exposes some conflicts. Teachers at the elementary and secondary level are required to accommodate those who have limited physical capabilities, the
discipline problems, the below average student and others who may not have been important or could find their way on their own in the agricultural or industrial ages. College professors will blame the elementary and secondary schools for not preparing all of their students as well as they had previously prepared the brightest of the wealthiest class. Without understanding the diversity of the students, employers who need information age employees will complain that the graduates of the secondary schools and the colleges are not as consistently well prepared to enter the information age as they were in the past. For instance, because there were fewer information jobs, journalists, which have always been in the information business, at one time may have been able to have their pick of the best of the information workers. Today, they have to compete with other professions for their information workers and may have to employ those who are not socialized into the wealthiest classes and who do not possess the best information processing skills. Thus, in the information age, diversity, and an acceptance of that diversity, is necessary, not only for educators, but also for employers.

Not only does the student body change, but the educational emphasis changes. In the agricultural age, agricultural colleges and departments dominated. Since wealth came from the land, the land must be studied, conquered, and controlled. The complexity of these departments developed into colleges and they studied not only the skills of how to best to plant the seed, but also of agricultural economics, agricultural marketing and a whole set of
esoteric, but necessary disciplines. In the industrial age, since wealth derived from the control of capital, business departments flourished. The skills of accounting, which at one time were relatively simply, develop complexity as more esoteric and conceptual studies develop. Business schools develop and offer a host of courses from beginning accounting to international marketing. In the information age, communication departments begin to flourish. In the seventies, along with the dominance of the information age, communication programs begin to expand. Since access to information creates wealth and power, students become interested in learning how to acquire, disseminate, sort, and make decisions on the basis of information. The students come, the field develops, and the courses proliferate. Yet, two forces still stunt the field: 1) the agricultural and industrial society views communication as not work so they are unwilling to support the field; and 2) a conception of communication as a set of skills to be acquired, i.e., learn punctuation and spelling, use good grammar and diction, learn how to stand in front of an audience. The emphasis on skills is necessary, however, if the agricultural colleges only focused on the skills of planting a seed we would not have seen the major breakthroughs in agriculture that have occurred. Or if the business departments only concentrated on simple accounting, the industrial revolution would never have become so sophisticated.

The concept of value also changes according to the age. For instance, the dollar value of a bushel of wheat has not changed
much during this century. When compared to the cost of goods, wheat has not increased in value since the beginning of the century and when the price is adjusted for inflation it is cheaper now than it was a hundred years ago. During the agricultural age, if you wanted to make bread, the largest cost was buying the wheat since you mixed the ingredients and baked it yourself. As the industrial society progressed, fewer people made their own bread and paid for the cost of production. Now the cost of the bread was determined by the cost of the wheat and the process of making it. The "value added" was in the processing. Today, the "value added" is information. So the cost of the bread is determined by the value added to the raw materials (wheat), the value added of industry (processing) and the value added by information (advertising). This leads to a clash of cultures since the agricultural interests complain that they receive only two cents from the loaf of bread and the industrial workers complain that they made the bread, but those that work in the information society profit from it. At each stage, the value of the raw materials continues to decrease as a percentage of the sales price. Today, for instance, a pair of Guess jeans may sell for $70.00 and a pair of Penney's Plain Pockets will sell for $25.00. The cost of the cotton raw materials is the same for both. Even the costs of making the cotton into denim and sewing them into jeans is very similar. However, Guess Jeans has added $50.00 worth of information value to their product that is unavailable to Penney's. This is the information value of any brand name. This summer, there have been pricing wars to
determine the actual value of the information as Philip Morris reduces the prices of Marlboro to compete with generic cigarettes and Kellogg adjusts the price of its cereals to compete with products that have less information value. In any case, a price is established to account for the information value of a product and in the information age, the relative value of raw materials and processing decrease.

Information value accumulates in more subtle ways as well. For instance, Great Plains Software adds information value to computer discs. When compared to the price of the software, the cost of the plastic raw materials and the cost of producing the discs is minimal. But the information value is considerable. Another example is the Rosenbluh Travel Agency which adds information value by arranging reservations for travelers. They have access to the information, are able to make decisions based upon it, and they charge a fee for their information work. These examples are similar to the real estate companies which charge 7-8 percent of the sales price of a home for the information value of their services, i.e., identifying potential buyers, selecting legitimate clients, arranging financing, preparing paperwork, etc.

So the information society produces a clash of value as well as changes in work rules, education, and diversity. The confrontation between information value and raw materials value is an historic struggle in North Dakota. As the nation shifted from the agricultural to the industrial societies, the Nonpartisan
League attacked those that gained their wealth from information. The Minneapolis Chamber of Commerce or the Cargill's or the Peavey's took the raw materials of the farmers, added information value and made large profits. Since North Dakota was primarily an agricultural state, they disliked the information workers in Minneapolis. Even as we reach the information age, elements of this antipathy remain. However, as the United States becomes the information society (the Minneapolis or New York) of the world, we can expect similar antipathy. For instance, oil, a raw material, is imported from the Middle East, industrial goods are produced in Thailand and other places, and the United States society adds information value and reaps the profits. As we move further into the information society and adequately develop a complex structure to study the communication system, we must expect the reaction that we receive from those dedicated to, or living in, another age.

If information has value, then it becomes necessary to protect it. In the agricultural and industrial ages, complex rules and laws developed to protect land and capital. In the information age, new rules will be necessary to protect the wealth created by information value. Creating value by counterfeiting information will become a major issue in the information age, though it is not a major problem in either of the earlier ages. For instance, I used to wear a watch that was indistinguishable from a Rolex to anyone except someone with a trained eye. For $25.00 I wore the equivalent of a $7500 Rolex. The materials and production costs were minimal, but for the real Rolex, the information value is
immense. But since the raw materials and the industrial value are minimal, the symbolic value is cheap to duplicate. Similarly, a $12.00 Garth Brookes tape can be counterfeited by purchasing a blank $2.00 cassette. In addition, the software created by Great Plains, can be bootlegged for the minimal cost of a new disc. Once it is created, the information value can be easily duplicated and sold by someone other than its owners. Communication departments need to be involved in studying the issues which protect information, as well as the study of those issues which create it.

Furthermore, information value is very mobile. If power is based on control of land, as it is in the agricultural society, power is not very mobile. You cannot move the land from North Dakota to Iowa or the Philippines. If power is based on the industrial factories, they are more mobile, but once they are built, they cannot be easily moved. However, information, or intellectual capital can be moved nationally or internationally very easily. As Wriston (1992) states,

Far more than any other form of capital, intellectual capital will go where it is wanted, stay where it is well treated, and multiply where it is allowed to earn the greatest return. Nations that respect the freedom of intellectual capital and accommodate it accordingly will prosper in the global economy. Those that imagine that this most powerful form of capital can be enslaved or entailed will wither. (p. 78)

Wriston argues that information can move anywhere in the world
Almost instantaneously. Conversely, information can be created from anywhere in the world. Geographic boundaries and location (which formed our concept of nations) are irrelevant. The only limiting factor in the development of information is whether it is welcome or not. Thus, North Dakota, if it welcomes intellectual capital, the communication system, and information is no longer dependent upon the agricultural age. However, if it does not welcome the intellectual capital it will migrate to places with greater opportunities.

Conclusion

In the information age, communication studies become important. Communication departments must do more than emphasize communication competence (the ability to read, write, speak and listen) and develop a professional identity. The departments must develop a stronger approach to study the context of communication. To ignore the theoretical context of communication and focus primarily on skills is similar to a business school that teaches accounting, but not business or one which teaches a business course, but does not teach economics. As communication professionals, we must meet the challenge to return the study of communication as an integral part of the liberal arts curriculum.
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