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TECHNOLOGY EDUCATION - A VITAL PART

OF FAITH AND LIVING

by

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Few have really understood the vital connections that exist between the practical aspects of life and the development of a balanced Christian faith. It is freely stated among us that true education is a balance between the spiritual, mental, physical and social spheres but not too many educators really practice or believe the full implications of this concept.

It was apparently essential for Jesus as a child to learn and grow in an atmosphere of relaxed country living, at His mother's knee, in nature and in the workshop of His earthly father. His youth and young manhood were spent in the carpenters shop working with wood and dealing with the comings and goings of people. His more relaxed moments would have been spent in the study of Scripture and communion with God. Ellen White makes the following statement:

> "Christ came to demonstrate the value of the divine principles by revealing their power for the regeneration of humanity. He came to teach how these principles are to be developed and applied.
> With the people of that age the value of all things was determined by outward show. As religion had declined in power, it had increased in pomp. The educators of the time sought to command respect by display and ostentation. To all this the life of Jesus presented a marked contrast. His life demonstrated the worthlessness of those things that men regarded as life's great essentials. Born amidst surroundings the rudest, sharing a peasant's home, a peasant's fare, a craftsman's occupation, living a life of obscurity, identifying Himself with the world's unknown toilers, - amidst these conditions and surroundings, - Jesus followed the divine plan of education. The schools of His time, with their magnifying of things small and their belittling of things great, He did not seek. His education was gained directly from the Heaven-appointed sources; from useful work, from the study of the Scriptures and of nature, and from the experiences of life - God's lesson books, full of instruction to all who bring to them the willing hand, the seeing eye, and the understanding heart."   (1)

As educators we have been obsessed with learning to the extent that we have not recognised the importance of basic living skills. "Faith and Living" may be just as important as "Faith and Learning". Many feel that some of our students have rejected the "Faith" because the Learning has become too analytical and far too impractical. Faith has given way to intellectualism, academic pursuits have eclipsed living faith and trust.

In the book Education, Ellen White describes very clearly the benefits of "manual training" as she calls it, that are essential to all students whether they are in the brilliant, main stream or slow learner category, all students should come in contact with life education through technology.

> "The benefit of manual training is needed also by professional men. A man may have a brilliant mind; he may be quick to catch ideas; his knowledge and skill may secure for him admission to his chosen calling; yet he may still be far from possessing a fitness for its duties. An education derived chiefly from books leads to superficial thinking. Practical work encourages close observation and independent thought. Rightly performed, it tends to develop that practical wisdom which we call common sense. It develops ability to plan and execute, strengthens courage and perseverance, and calls for the exercise of tact and skill." (2)

If we neglect the integration of faith and living in our modern technological society we generate a community that is made up of people who are either good at learning, moderately good at learning or poor at learning, but are ill-equipped for living. The College graduate may be brilliant, he may have the highest intellectual standing in his field but without an experimental knowledge of the everyday skills of living developed through contact with properly directed technology and living skill training there is a strong probability that he will be; a poor communicator to the majority of society, limited in common sense, helpless as a homemaker and frustrated in his personal life.

We as educators must learn to build bridges between academic knowledge and the practice of living. Even those who do not profess to be Christian educators as such promote this concept. Susanne Peckham states in the September 1989 "School Shop" under the title "What is Technology Education?"

> "Several general characteristics apply to the field of TE. It is, first of all, viewed as a bridge between "academic knowledge" and "practice," between "theory" and "application." TE is often described as "wholistic," integrating and integrated with otherwise disparate academic subjects. It addresses the economic, social, environmental, and ethical concerns involved in contemporary life. By providing "technology literacy," TE prepares students - male and female, academic and nonacademic alike - to function as knowledgeable citizens in our increasingly technological world. Obviously, it plays an essential and highly valuable role in the education curriculum.
> The practical application and hands-on activities involved in TE give academic subjects - especially science and maths - concrete relevance.
> Through this approach, students gain appreciation of and a greater interest in their education, increasing their motivation for learning. (3)

To understand humanity is the greatest need of an educator and to do this requires an understanding of how humanity lives not how it appears to live. "He who seeks to transform humanity must himself understand humanity." (4)

The desire of the writer of this paper is to help educators in all fields of study understand more clearly the function and the importance of life training through technology education.

The Rationale for technology education as outlined in the Avondale College Handbook reads as follows:

RATIONALE

Many educators now recognise that our society is characterised by problems demanding technological solutions. Guiding student development in the context of our constantly changing society demands education that provides opportunities for the student to encounter and approach real situations. Technology education provides skills in

design, planning and construction which require the application of critical thought and individual creativity to problem solving. In this sense Technology Education contributes to the aims of secondary education by providing the student with opportunities to perceive, use, understand, and control the technological environment and thereby enhance the level of perceptive understanding, mature judgement, responsible self direction and moral autonomy. **(5)**

Industrial Arts Contributions

1. To strengthen an individuals ability to function wisely and skilfully in the family and the community.

2. Giving the cognitive areas greater relevance through practical applications.

3. The development of problem solving skills, through the processes of design, planning, construction and critical evaluation thereby increasing the student's ability to think both vertically and horizontally.

4. Promoting a positive attitude towards safety.

5. Generation of a basis for worthwhile leisure activities.

6. Developing attitudes of honesty, diligence, reliability and respect.

7. Developing an interest in healthy activities and positive relationships adopting Christian values and fostering an awareness of the Creator's power through the activity of human creativity and the beauty of nature's design in materials.

Definition

For the purpose of this paper the term "Technology Education" will refer to those subjects taught under the general headings of Industrial Arts, Home Science, and Agriculture. Many other subject areas could be classified under the general heading of technology, such as - Computing, some sections of Science, Architecture and Engineering, however the writer is not referring to these in particular.

Towards Integration

Technology education has been looked upon by many educators as a soft option hardly worthy of a high position on the school program. Some have seen it as an entertaining program suitable only for those students less

likely to succeed in the academic subjects. Others have tolerated its existence in the program but should time constraints and the need for more of the "important" subjects demand changes in the timetable, technology is the first to go.

Should financial restraints press heavily on a school program, technology is the obvious subject in the minds of many which should be cut back or not offered at all. After all the three R's are the backbone of education and to be academically viable you must build around the backbone a body composed of the sciences, humanities, economics, computing etc. and maybe for the less gifted among us a little of the arts and crafts, if finance and time permit.

No sophisticated Adventist in his or her right mind they say, would encourage a child to be involved in technology education to the detriment of subjects in the "vital" areas, as he or she must succeed academically and take up a profession. After all that's where the money and the prestige are. Who cares about the essential elements of life and living when money and a professional standing in the community are available?

Of course not all educators would feel this way and many would be rather distressed if this notion was to permeate into their school. However, if technology education is not presented in the right way whether it be Industrial Arts, Home Economics, Agriculture or whatever, then what else can we expect from those observing. It is true that all of these accusations can be levelled if the particular teaching field is not approached in the correct manner.

Therefore we should take a long hard look at how technology and industrial technology in particular should be taught so that the full benefits can be obtained in our schools and colleges.

What should technology life education do for an individual?

We should make it clear from the start that we are not talking about vocational or trade training, we are talking about education for life - a Christian education, **strong in faith, strong in learning, and strong in living.** Education for a full and rewarding life with the ability to face life's tasks with confidence in the real world.

The Greeks during the Homeric Age held anyone with intellectual and handicraft skills in a place of respect as a free citizen, but later as they became more sophisticated, abandoned the handicraft as "banausic" (merely mechanical) and used slaves instead.

The Jews in ancient times also recognised that a boy who worked with his hands was better than a boy who did not, and that study in school and labour at a manual occupation go well together, and are effective in producing useful members of society. **(6)**

Holmes makes the observation that, "Education should prepare us to adapt, to think, to be creative." **(7)**

Harold M. Best in his essay - "God's Creation and Human Creativity" states the following,

> "Some activities demand highly developed skills: doing a coronary by-pass or hitting a fast ball; others demand less: using a socket wrench or playing a C major scale. By the same token, creativity can take place at a high level: composing a string quartet; or a comparatively low level: thinking up a paper clip. In each case, something has been thought up. The special quality lies in the thinking up, the imagining.
> Creativity, technique, and skill are often confused, especially by those who should know better - educators, philosophers, and artists. Activities such as playing a musical instrument, painting, dancing, writing, learning a foreign language, and so on, are often termed skills. By contrast the study of history, literature, and the like, by being linked to conceptual and scholarly activity - the "life of the mind" - are implied to be different perhaps superior. This is not only unfortunate but provincial." **(8)**

The two fundamental ideas which came out of the revival of classical learning during the fifteenth century were that,

> "Sense impressions are the basis of thought and, consequently, of knowledge and learning by doing." **(9)**

It is the considered opinion of the writer that all students in a Christian school should be exposed to some type of technology education so that the essentials of life and living can be more clearly understood. People need to be taught how to work, to think practically, to plan and execute their everyday tasks. How to be better homemakers, better leisure time users, honest citizens making mature, practical, considered Christian judgements among their fellows and in their homes.

Let us consider how properly presented technology education can achieve these goals by taking one by one the Industrial Arts contributions as listed in this paper.

1. **To strengthen an individuals ability to function wisely and skilfully in the family and the community.**

The technology educator must first recognise that his students are not necessarily learning hand skills or the ability to use tools and machinery as part of a training program to fit them for a trade or to prepare them for a job in our technological society. He is educating people who will occupy a vast range of occupations, people who need to be able to function as informed citizens in a technological society. People who need Christian insights into the everyday world of people and things.

Home and family can be much more rewarding to the individual who understands the practical workings of society. Wisdom and skill are very closely linked together when the individual is taught how to design his living experiences to obtain the maximum benefit. Everybody makes plans, it is just that some know how to do it better than others. Christian based

technology education is ideally suited to meet this need. Once again Ellen White states,

> "Many of the branches of study that consume the students time are not essential to usefulness or happiness; but it is essential for every youth to have a thorough acquaintance with every day duties.....they would be better fitted to meet the emergencies of life." **(10)**

2. Giving the Cognitive Areas Greater Relevance Through Practical Applications

Gaebelein states,

> "The Bible knows no such thing as truth that is merely theoretical; in the Bible the truth is linked to the deed." **(11)**

Many teachers in the more academic subjects of the school fail to recognise the great benefit that a technology subject can be to their students. A good technology teacher will endeavour to improve his students communication skills, mathematical skills, analytical skills, social skills and many more.

The writer remembers some years ago a young lad named John, who came to his technology classes under a cloud of total despair from the other teachers. They had given him up as hopeless stating that he would never be able to handle the three R's with any competence. Much thought was given by the writer and his colleague as to what should be done for this lad. We decided to look for some special interest that John might have, knowing that most boys have something they love to do. It was hard, but finally we found one. To our dismay he latched onto our suggestion that he pursue this interest (under our direction) with great gusto.

We began by making him sit down and plan how he was going to achieve his goal. Then came the test, the calculation of materials, contacts about the availability of materials, letter writing, phone calls etc. The fact was he became so interested in his project that he did all these things

willingly. John went on from strength to strength and after some considerable time his other teachers who had given up hope began to see a change and wondered how it had all happened.

This transformation can happen to any boy or girl if the teachers are willing and able to let it. Much more time should be taken by teachers to plan strategies that open up opportunities for all students to develop a strong sense of willingness to learn through pleasurable activities which stimulate the mind and develop the whole person. Let us not be responsible for building a lopsided society. Everyone should have the opportunity of a balanced education.

3. **The Development of Problem Solving Skills, Through the Processes of Design, Planning, Construction and Critical Evaluation Thereby Increasing the Student's Ability To Think Both Vertically and Horizontally.**

The design based program now an integral part of the Technology and Home Economics syllabi in N.S.W. has tremendous potential. Teachers now have opportunity to develop courses which will give students much more flexibility and individuality than ever before. The development of problem solving skills gives the student an opportunity to think carefully through a problem and come up with a satisfactory solution, therefore developing mind/skill co-ordination.

The Curriculum Studies Directorate of N.S.W. has given the following definition to Industrial Arts Design,

"Design is creative problem-solving directed towards the satisfaction of human needs. As people select the materials from their environment and use them for the purpose of solving a particular problem, they are designing. Industrial Arts Design is a creative process of using knowledge about materials, their characteristics, properties and application, to produce a functional solution to an identified problem." **(12)**

Our task as College educators in the School of Education is to make our trainee teachers aware of the potential this method of teaching has for the wholistic development of their students, to fit them both mentally, physically and spiritually for the society in which they live.

4. Promoting a Positive Attitude Towards Safety.

We live in a world that is fraught with hazards on every side. Living safely is of the utmost importance in this fast moving society in which we live. To have a positive "think safe" attitude towards everything we do is vital to our very existence.

The technology education program has a strong safety component built into its every phase of learning. It becomes an automatic part of the individual's thinking and working. Everyone in the school should have the opportunity to develop this safety training. As our body is the temple of the Lord we should learn how to protect and care for it as well as we can. "People Safety" is fast becoming a major concern in our society.

5. Generation of a Basis for Worthwhile Leisure Activities.

The use of leisure time is certainly becoming a very important issue in modern society. The concept of work, eat and sleep has long gone for most and what to do with "spare" time has become a problem to a lot of people.

Technology education takes care of this problem very well. It creates within the mind of the person unlimited possibilities for enjoyable, profitable and worthwhile activities. Lack of mind hygiene, the use of drugs, turning to violence, squandering of time and assets has become a major problem for youth.

If we can generate within the minds of young people a love for the creative, a desire to occupy leisure time with fascinating, worthwhile activities we will create a mindset that will dislodge the desire for

immoral, useless pursuits.

Holmes in his book, "The Idea of a Christian College", makes this statement,

> "The same understandings, skills, and values that constitute good career preparation make good life preparation as well. Family life, friendships, community service, church involvements, **and the use of leisure** - all stand to benefit in analogous fashion from an education that is broad enough to help people understand the purposes and functioning of those things, and develop appropriate interests and skills." **(13)**

6. Developing Attitudes of Honesty, Diligence, Reliability and Respect.

These virtues speak for themselves and can be readily developed in an environment where people are using valuable materials, working with motivated skill to get the job done, depending on the group for co-operation, seeing a job well done and having the utmost respect for machinery and the safety of each other.

Environment plays an important role in the development of the young mind. Technology teachers with skill and understanding can create this environment if they are willing to teach **people** not just skills. Young people develop great respect for teachers who can create an atmosphere for learning which is vibrant, full of expectancy and well organised. A technology workshop can be just such a place if it is safe, well organised, clean and well stocked.

It is amazing how quickly these attributes develop when the whole group is motivated towards designing, planning and constructing objects that stimulate a "switched on" feeling among them. Respect for accomplishment, pride of workmanship, organisation and efficiency rapidly develop in the group as they work together observing each others talents and skills.

The Christian technology teacher has unlimited opportunities to develop

within his students attitudes of honesty, diligence, reliability and respect if he recognises the potential available to him in the creativity of young minds. The one-on-one contact which he has with students gives him opportunities other teachers do not have. His knowledge of the lifestyle and inward thinking of his students is usually ahead of his colleagues and he is therefore in a strong position to give council and help.

7. <u>**Developing An Interest In Healthy Activities and Positive Relationships, Adopting Christian Values and Fostering An Awareness of the Creator's Power Through the Activity of Human Creativity and the Beauty of Nature's Design in Materials.**</u>

Our world today has many attractions for young minds, some good and some bad. To foster the good is the task of all Christian educators both in and out of the school environment. A truly motivated technology teacher has endless opportunity to develop healthy outdoor and indoor activities for young people. Some of the more popular ones are sailing, surfing, photography, radio controlled vehicles and planes, auto mechanics, computer assisted drafting, wood turning and many more. All of these activities if properly introduced and controlled can produce within the individual an appreciation for the rewarding and beautiful things of life, strengthening a positive attitude toward the Creator and the created.

<u>In Conclusion</u>

Tremendous changes have taken place in technology education since the days of the "ragged schools" of England and Scotland in the early eighteen hundreds. A much greater degree of respectability and acceptability is evident in educational circles for a subject area which was once considered unnecessary. However, there is still room for improvement particularly in

the training of technology teachers to carry forward the high ideals of the profession.

Many educators reading this paper have no doubt been unaware of the possibilities for development inherent in technology education. This aspect of our education program has never really had a great deal of academic prestige, it has been too often linked with the trades rather than the professions.

We would like to think that this day has passed and that we will go forward with a strengthened desire to educate our young people for life and for eternity. It is hoped that our colleagues in the other fields of study will join with us in planning for our students the best education that is possible under the guidance of the Holy Spirit.

As Christian educators our duty lies not only with the development of academic achievement in a faith and learning environment but also with the development of living skills. Our society today needs evidence of practical Christian living demonstrated by people who have caught a vision of what a well balanced education is all about. It is to this end that we as technology educators dedicate our efforts. We wish to learn in the school of Christ, the Great Teacher, the real meaning of life and learning.

Technology education in all its various spheres is a vital part of faith, living and learning which will direct our students to a more abundant life.

END NOTES

1. White, E.G., <u>Education</u>. Pacific Press, 1952. p.77.

2. White, E.G., <u>Education</u>. Pacific Press, 1952. p. 220.

3. Peckham, S., September, 1989, "<u>School Shop</u>" What is Technology Education?

4. White, E.G., <u>Education</u>. Pacific Press, 1952. p.78.

5. Avondale College <u>Bachelor of Education Course Review</u>. p. 221.

6. Bennett, C.A., <u>History of Manual and Industrial Education</u>. Chas. A. Bennett Co., Inc. Pub., 1937. p. 15.

7. Holmes, A.F., <u>The Idea of a Christian College</u>. Michigan: W.B. Eerdmans Pub., 1987. p. 24.

8. Heie and Wolfe. (ed) <u>The Reality of Christian Learning</u>. Essay by Best, H.M. "God's Creation and Human Creativity" Christian University Press, 1987. p. 249.

9. Bennett, C.A., <u>History of Manual and Industrial Education</u>. Chas. A. Bennett Co. Inc. Pub., 1937. p. 30.

10. White, E.G., <u>Education</u>. Pacific Press, 1952. p. 216.

11. Gaeberein, F.E., <u>The Pattern of God's Truth</u>. Chicago: Moody Press, 1968. p. 35.

12. Lucas, B., <u>Design - Where To Begin</u>. Industrial Arts Education, September, 1986. p. 12.

13. Holmes, A.F., <u>The Idea of a Christian College</u>. Michigan: W.B. Eerdmans Pub., 1987. p. 41.