

STRATEGIES IN
ALCOHOL, TOBACCO AND DRUG EDUCATION

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INTRODUCTION

This report is an attempt to give a review of some preventive “health education strategies that have been used in other countries in the areas of smoking, alcohol and drug education. It does not purport to be exhaustive, and in fact, the difficulties of getting material from abroad during the postal strike may have led to the omission of some useful material. It is hoped, however, that it will be of help as an initial reference work for those who will be doing further work in any of these areas.

Chapter 1 is a review of some theoretical considerations in the area of communication in the health education field. While referring to alcohol, smoking and drug education it does not confine itself to these where other preventive health practices such as screening tests, child care, etc., might have useful points to make in relation to the general area of health education. The following three chpts deal specifically with smoking, alcohol and drug education strategies respectively. They deal with preventive education or early intervention and do not refer to smoking cessation techniques or methods of treatment of alcoholism or drug addiction.

CHAPTER I

COMMUNICATION IN HEALTH EDUCATION

The term health education has a number of meanings depending on whether one is looking at it in its narrowest or widest context. The WHO defined it as follows —

“In its broadest interpretation health education concerns all those experiences of an individual, group or community that influence beliefs, attitudes and behaviour with respect to health as well as the processes and efforts of producing change when this is necessary for optimal health. This all-inclusive concept of health education recognizes that many experiences both positive and negative have an impact on what an individual, group or community thinks, feels and does about health and it does not restrict health education to those situations in which health activities are planned or formal. In the more limited meaning health education usually means the planned or formal efforts to stimulate and provide experiences at times, in ways and through situations leading to the development of health knowledge, attitudes and behaviour that are most conducive to-, the attainment of individual, group or community health.”

While recognizing that formal health education activities are mediated by the wider cultural environment implied in the broader definition, this report will obviously be concerned mainly with health education in the more formal sense of the term.

Whether one focuses on the aim of health education as the creation of an awareness in individuals of their health as a resource or on the complementary aims of awakening within them the motivation to use that resource wisely and providing them with the specific items of information necessary for them to do so, one is of necessity in the area of communication and concerned with the most effective and efficient way of communicating in particular situations.

One of the broadest and most general ways in which communication in the field of health education takes place is personal example. This has implications for parents, teachers, health and social welfare personnel and particularly for young adults or anyone such as entertainers, sports stars, etc., who are a focus of admiration for young people. Davies and Stacey in their study in Glasgow, "Teenagers and Alcohol," found that —

“toughness and sociability are important factors .in teenagers’ perceptions of drinking behaviour. Heavy drinkers, for example, are seen by virtually all teenagers as being tough but unsociable; on the other hand the non-drinker is seen as being weak (i.e., lacking in toughness) and not particularly sociable. It appears that many young people are motivated to drink both in order to avoid’ the ‘weak/unsociable image’ stigma associated with non-drinking and to achieve the toughness which they associate with the consumption of alcohol. It could be argued that the strong ‘unsociable’ label attached to heavy drinking would operate as a deterrent to excessive alcohol use, and in some cases this may be so. It is clear however that young people fail to see themselves in terms of their own stereotyped perception of the heavy drinker, even when they themselves are in fact heavy drinkers. Therefore the negative attributes of this stereotype (lack of sociability) do not impinge upon his or her own personal drinking behavior. By drinking, young people avoid being thought of by their companions as weak, and since they do not see themselves as belonging to the category ‘heavy drinker’ they may feel that sociability is gained rather than sacrificed.”²

Bynner in his study on smoking behaviour found that smoking had similar associations for young people. In the absence of mature and attractive sociable adult models who are also non-smokers, non-drinkers or moderate drinkers, it is difficult to see how the association between drinking/smoking and being grown up, attractive and sociable can be broken down. It might be concluded that an important general aspect of health education is improving the image of those who engage in healthful behaviour by making adults, particularly parents, teachers, health and social personnel, sport stars and entertainers more conscious of

their role in this area. In this way health education could be seen as a function of the community at large as well as being the task of particular individuals or agencies. It might also be of interest to mention the young age at which children seem to develop perceptions of alcohol. Jahoda and Crammond⁴ carried out a study, "Children and Alcohol," among two-hundred and forty Glasgow children — balanced by sex, social class, religion and divided into three age groups (6, 8 and 10). To quote from the study —

“Results showed that even the youngest children had clear notions about adult behaviour relating to drinking and smoking; in other words they were aware of the ‘social norms.’ Subsequent detailed analysis suggested that their perceptions varied somewhat according to the drinking behaviour experienced within the home.”⁵

Adults often underestimate the extent to which children absorb impressions from their general environment, especially in relation to things which adults don't see as concerning children, and any health education program for parents might usefully make them aware of the results of findings such as Jahoda and Crammond's. Apart from their implications for adults giving example to their children in an informal way, the findings could also throw light on the age at which formal alcohol/smoking education might usefully begin but this will be referred to later in the report.

One of the difficulties in trying to evolve general guidelines for communicating effectively in health education is that one may have several distinct objectives in relation to different target groups and also different long-term and short-term objectives. One obvious objective would be information giving, and methods such as T.V., class lectures, etc., which might be appropriate for this might be inappropriate for the more difficult task of attitude and/or behaviour change.

Similarly from the long-term point of view, the overall objective of helping people to value health as a resource and to develop a greater sense of self-esteem so that they will be more motivated to engage in health-maintaining rather than health-damaging behaviour, will require different, more radical methods than will changing an isolated attitude or behaviour pattern in relation to drinking or smoking. To be most effective it would be necessary to be clear on the particular objective and priorities in a given Situation.

McGuire⁶ (1969) has outlined five main components of persuasive communication, each illustrated by heavily researched variables and they could provide a useful checklist for any piece of persuasive communication. They are as follows.

TABLE 1

THE FIVE COMPONENTS OF PERSUASIVE COMMUNICATION
EACH ILLUSTRATED BY HEAVILY RESEARCHED VARIABLES

(See McGuire, 1969 for more detailed discussion.)⁷

- I. Source variables
 - A. Credibility
 - 1. Expertise
 - 2. Trustworthiness
 - B. Attractiveness
 - 1. Similarity
 - 2. Familiarity
 - 3. Liking
 - C. Power
 - 1. Control over means and ends
 - 2. Concern about compliance
 - 3. Scrutiny over compliance
- II. Message variables
 - A. Type of appeal
 - 1. Ethos, pathos, logos
 - 2. Positive versus negative (fear) appeals
 - 3. Reinforcements within the communication
 - 4. Message style, humor, etc.
 - B. Inclusions and omissions
 - 1. Implicit vs. explicit conclusions
 - 2. Refuting vs. ignoring opposition arguments
 - 3. Repetition of the message

(continued)

TABLE 1 (continued)

- C. Order of presentation
 - 1. Conclusion first or last
 - 2. Ordering with respect to desirability and agreement .
 - 3. Climax vs. anticlimax (Strongest arguments last or first)
 - 4. Refuting opposition before or after own supporting arguments
 - D. Discrepancy from receiver's initial position
 - 1. Selective exposure
 - 2. Perceptual distortion- differential recall
 - 3. Discrepancy and attitude change
- III. Channel variables
- A. Direct experience with object vs. communication about it
 - B. Modality (eye vs. ear, etc.) ,,
 - C. Mass media vs. face-to-face personal influence
 - D. Relative efficacy of the different mass media
- IV. Receiver variables
- A. Active vs. passive role
 - B. Generality of susceptibility
 - C. Demographic variables (sex, age, socioeconomic class, etc.)
 - D. Ability factors E. Personality factors
- V. Destination variables
- A. General effects beyond specific target issue
 - B. Immediate vs. delayed impact
 - C. Direct impact vs. immunization against Counterarguments
 - D. Verbal attitude change vs. gross behavioural change

A brief summary of research findings in relation to each of these variables might be useful.

This summary is based on McGuire "Communication — Persuasion Models for Drug Education."⁸

1. Source factors that affect persuasive impact. It is no surprise that messages transmitted in similar ways to comparable audiences have considerably different persuasive impact depending on the source to whom the message is attributed. Source characteristics leading to greatest variation are: credibility, attractiveness and power.

Source credibility. The source person has persuasive impact to the extent that he is considered to be communicating the truth. This occurs if the recipient perceives the source to be expert by being generally prestigious or a recognized authority in the particular subject area so that there is reason to believe he actually knows what the truth is and to be trustworthy by being free from the intent to persuade and not seeming motivated to warp the truth due to self interest. However, there is such a thing as being perceived as too expert, and sometimes being perceived as intending to persuade actually serves to enhance the persuasive impact. For any particular health education campaign therefore it is necessary to ask which sources the target population regards as expert and trustworthy in this area.

Source attractiveness. In general, the source's attractiveness to the recipient derives from similarity, familiarity and likeability. McGuire cites considerable evidence that the persuasive impact of a given communication increases linearly as a function of the perceived similarity between the source and the recipient. The situation here is rather complex however since the factor of similarity must be balanced with that of expertise. Most twelve year olds are not experts in the area of drug effects and may even recognize this lack of expertise in themselves and their contemporaries and so may regard their older school mates or their athletic coach as more expert than they. On the other hand as the source gets extremely expert, the dissimilarity may increase to a point where trustworthiness becomes questioned. McGuire has shown that when this type of complex situation arises, an Intermediate level of the communication variable tends to have more impact than a very high or a very

low level. In this case, it would follow that twelve year olds would be more influenced by those they perceive as slightly older than themselves (say eighteen year olds) than by same-aged and younger people or by those much older — even when these older people are perceived as quite expert. McGuire of course in this case is taking the example of illegal drug education for teenagers. In other situations and for other age groups, age would probably not be as important as a basis for similarity.

Source power. From the health education viewpoint, overt compliance while under the scrutiny of a powerful and concerned source is of much less social utility than the internalization of such overt compliance. The area where this might have most implication is that of parent/teacher sanctions. According to McGuire, overt compliance with a particular behaviour pattern is likely to continue even when the external force is removed, to the extent that the outward compliance has been perceived as a) having serious consequences on the person's own life or on others; and b) having been to some extent due to his own volition. It follows that in order to maximize internalization of the value of behaviour patterns, the minimum external force necessary to induce compliance should be used — where the matter of external sanction is involved at all.

2. Message variables.

Message inclusion. Study has been done on whether a message is more persuasive when all the evidence is presented and the conclusion is left for the hearer to draw or when the conclusion is explicitly drawn within the message. It was initially thought that it would be better to leave the recipient

to draw the conclusion, since this would involve him in a higher level of participation in the communication situation and would also arouse less suspicion of intent to persuade. However, according to McGuire research findings are quite clear in showing that persuasive impact is greatest when the message not only includes all the arguments but also explicitly draws the conclusion for the listener. However, Triandis in his book, "Attitudes and Attitude Change,"⁹ states that it has been found in some studies that, if a considerable delay is allowed, giving the audience time to attend and think about the issue, then letting the audience come to its own conclusion is more effective.

Another variable having to do with inclusion or omission within the persuasive message is whether the opposition arguments are ignored or explicitly refuted. The message which ignores the opposition arguments has been found to be more effective than the message which refutes them as far as immediate impact on receiver's beliefs is concerned- but the "mention and refute" messages are far more efficacious in conferring resistance to subsequent counterattacks especially where the audience is favourable to the behaviour advocated and is reasonably intelligent.

Order effects. The organization within the message of the material to be presented has also been studied. The answer here seems to depend on the initial position of the audience. If the audience is favourably disposed to an unhealthful behaviour, and inclined to doubt the educational campaign against it, then it appears best to mention and refute the opposition arguments first. If the audience is relatively naive as regards the appeals of the unhealthful behaviour, then it is more efficacious to present one's own side before mentioning and refuting the opposition arguments.

Message extremity. A person having an attitude on a particular topic has surrounding that attitude what is known as a latitude of acceptance — positions slightly different from his own which he can still accept. Outside of that range he tends to reject positions. This has implications for the extent to which a message should be geared to being close or very distant from the receiver's own position. In the general the greater the amount of change advocated the greater the amount obtained. However, when a receiver is highly involved with a particular issue, when he is quite sure of his own position, when the issue is ambiguous or when the communication is only mildly credible, then the advocacy of an extreme amount of change is less effective than a moderate amount of change. Triandis concludes that in everyday life moderate amounts of advocated change are optional for attitude change.¹⁰

Type of appeal. According to McGuire,¹¹ years of research indicate that positive appeals are more efficacious than negative ones. Negative appeals, particularly high fear or anxiety-arousing ones, may motivate individuals to avoid educational campaigns. Positive appeals however can be strictly limited by environmental realities — it can be difficult to communicate positive alternatives to drug or alcohol abuse in the absence of these alternatives in the community — in areas of high unemployment — poor recreational facilities — lack of training in relaxation techniques or alternative consciousness expanding avenues.

Triandis¹² has the following to say on the efficacy of fear appeals —

“On the one hand fear is a drive and therefore will tend to multiply the tendency to comply with the recommendations of the message. On the other hand, fear is also a cue that elicits avoidance of the source of the message.”¹²

It would appear that the relationship between fear and attitude change is an inverted U-shaped curve. At low levels of fear, the audience isn't particularly interested. As the fear increases, however, reception is likely to be good and fear will have the additional advantage of increasing yielding. At rather high levels of fear the subject will start defending himself from such noxious stimuli and without reception of the message there will be no yielding.

Janis argues that by introducing special procedures that will reduce the defenses of the subjects it will be possible to produce more attitude change. Janis had subjects engage in role-playing exercises as patients with lung disease and had another group listen to a tape-recording of an authentic session that had been conducted by one of the subjects in the experimental group. Cigarette smoking decreased considerably more in the role-playing group than in the other group.

However, it may be necessary to take into account the particular behaviour which the education campaign is advocating. Leventhal, Singer and Jones (1965) suggested in the case of inoculation, the more the recommendation (for example, shot-taking) is seen as possible, immediately available and effective, the more likely a high-fear communication is to lead the person to take that action. On the other hand, it would appear that for action that requires a more generalized, long-term modification of attitude or behaviour such as alcohol, drug use or diet, high fear messages are counterproductive. However, it is important to

take into account the context in which fear is aroused. Mann in 1967 compared three procedures — the fear-arousing role-playing experiment described above by Janis, a cognitive procedure which required the subject to play the role of debater arguing against smoking and a shame-arousing procedure in which the subject took the role of a helpless smoking addict. The fear-arousing procedure was by far the most effective in changing attitudes.¹⁴

3. Channel factors that affect persuasive impact. One of the commonest channels whose efficacy in persuasive communication is debated is T.V. Klapper argues that mass communication channels such as T.V. create attitudes where none exist, modify existing attitudes but rarely nullify them. O’Keefe states that the most widely confirmed finding is that mass communication serves as an agent of reinforcement of such attitudinal and behavioural predispositions as the individual audience members already possess. Work by Rogers in his study of the process of adoption of innovation in rural communities distinguishes seven stages — need, awareness, interest, deliberation, trial, evaluation and adoption. Impersonal services such as T.V. are most important at the awareness stage and personal sources are most important at the evaluation stage of the adoption process.¹⁷ (Further reference to T.V.’s effects in the light of health education campaigns will be made later in the chpt.).

4. Receiver factors that affect persuasive impact.

Interaction factors. Source and message variables interact with the receiver in determining persuasive impact. For example, the effectiveness of presenting the opposition

arguments to an advocated behaviour is influenced by the intelligence of the receiver and whether he is initially pre-disposed to, or against, the position one is supporting in the education program. Presenting the opposing arguments generally works best with an intelligent receiver. Similarly, the use of anxiety-arousal in the educational campaign should be kept particularly low when the recipients are prone to anxiety and feelings of vulnerability to illness and death. Where recipients are extremely complacent and feel physically invulnerable, higher levels of fear arousal tend to be more efficacious.

In general, people who are low in self esteem tend to yield more readily to persuasive messages which get through to them, but on the other hand, their relatively low attention and comprehension tend to keep messages from getting to them. In general, persons intermediate in self-esteem tend to be more easily persuaded than those very high or low on this dimension. Messages directed at those low in self-esteem need to be designed to be high in attention attraction and fairly simple to grasp to overcome the barriers due to inattentiveness and non-comprehension

5. Destination factors that affect persuasive impact. Communication may have different aims. It may aim at maximum immediate impact or it may aim at a persisting long-term effect even at the cost of immediate impact. It may aim at having a direct impact in changing the beliefs of a hostile audience or it may be designed to strengthen a sympathetic audience so that they are more resistant to subsequent counterattack.

Immediate versus long-term impact. While many studies show that maximum impact comes immediately after receipt of persuasive communication followed by a gradual decay with the passage of time, it has been found that there are frequent “sleeper effects” such that the full impact of a persuasive communication appears only some interval after the communication has been received. According to McGuire this is particularly likely to happen when the communication is subtle, qualified, requires active thinking by the recipient, is intended to spread to beliefs and actions beyond its immediate explicit content and contains a discounting cue such as transmittal by a suspect source. For example, if warnings against drug abuse are attributed to a source who is authoritative but so different as not to inspire trust, the immediate impact may be depressed by suspicion about the source but with passage of time it will gain in impact due to dissociation from this dampening source factor. Likewise, a qualified message admitting some uncertainty in the strength of the evidence of detrimental effects from drug abuse would tend to have less immediate impact than a message confidently stating these dangers, but would tend to catch up with it over time.

Immunization against counterarguments. Presenting detailed arguments against drug abuse to a person tends to have more direct strengthening effect on the sympathetic audience than does a message mentioning and refuting arguments in favour of excessive drug usage. But as time passes and the individual is exposed to counterattacks the latter tends to be much more effective than the former in making him resistant to pressures toward drug abuse.

One procedure that has been found to confer appreciable resistance to counterattacks is to pre-expose the individual to weakened forms of the expected counterattack, perhaps by mentioning and refuting them with individuals who have lived in an environment that has left them oblivious to the arguments in favour of drug abuse. It has been found that pre-exposing over-protected individuals to weakened versions of the counterattack to which they may be later exposed confers strong resistance to these attacks when they later come in force.

Another procedure that has been found effective for developing resistance to subsequent counterattacks is to “anchor” the individual’s convictions that drug abuse is to be avoided, to other parts of his cognitive system. For example, an education campaign can remind the individual of a variety of values which he espouses and demonstrate how drug abuse will be counterproductive to the realization of these values.

McGuire’s check list provides a useful tool for examining the variables in any particular communication situation and his general discussion on them shows the complex way in which some of these variables may interact with each other in different situations producing different effects.

MASS MEDIA

In so far as health education is seen as mass education the question of the role and effectiveness of news media such as T.V., radio and newsprint is of continuing importance and of these, in the developed countries, T.V. is regarded as now having the widest audience. Because the mass media is used to sell products, the question is often asked, "Can it sell health education?". The drawing of comparisons between the two would seem to be dangerous. A quotation from O'Keefe on this point might be in order.

"It must be understood exactly what the media are doing in their normal selling efforts. It is known as interpreting the want-satisfying qualities of products and services. That is, the media show how a certain product or service can satisfy a pre-existing desire the audience already experiences. They attempt generally to demonstrate how a product or service will enhance already established behaviour patterns. In normal persuasion, the media do not attempt to cause a cessation of behaviour patterns or to create new desires and attitudes in the audience. Advertisers discovered long ago that the mass media by themselves do not have these abilities. When an advertiser wishes to cause a slight behaviour or attitudinal change, he attempts to channel the pre-existing drives in the desired direction. He rarely attempts, as many drug abuse messages have, to attack directly that which is already well established in the target audience."¹⁸

This statement by O'Keefe would seem to caution against any simplistic extrapolation from the effects of product advertising to the effectiveness of mass media as an instrument of health education.

Leaving aside its general socialization role and the way in which its serials, films, etc., may implicitly (even if, non-deliberately) portray health-maintaining or health-damaging behaviour, T.V. is commonly used as a deliberate tool of formal health education programs. At its lowest level of achievement,

T.V. advertisements, documentaries and discussions on health education could be viewed as an input into the general cultural environment of a community, functioning among and through many other opinions and environmental factors in moulding attitudes and behaviour. At a minimum it is a presence — putting forward into the general cultural melting-pot the views of the health educators. This is not to say that of itself it changes attitudes and behaviour, but as a presence it should not be under-rated. It at least provides a focus around which social support for healthy behaviour can consolidate.

It is when one begins to look at the more specific effects of T.V. health education programs that controversy arises. Here it is necessary also to distinguish between giving information/awareness, changing attitudes and changing behaviour and also to bear in mind that T.V. campaigns are often just one item in a multi-strategy campaign.

In a Lieberman Research Inc. study, reported by O'Keefe, "The Teenager Looks at Cigarette Smoking," (1969) 1,562 U.S. teenagers aged 13-18 were questioned about anti-smoking commercials. It was found that 94 percent of the respondents said they had seen or heard anti-smoking commercials. While the awareness of the messages was high, the seeing or hearing of them was considerably below that of pro-cigarette commercials. Recall of the anti-smoking commercials was somewhat greater for smokers than non-smokers, the average number recalled being 10.2 for the smoker group as compared with 8.6 for non-smokers. The major element recalled from the message was that smoking is hazardous to health, causing cancer, shortness of breath and heart disease. When it

came to the question of whether the anti-smoking commercials had personally affected them, a little over half the respondents answered yes. Fifty-two percent felt the commercials had affected them by educating them to the dangers of smoking. Thirteen percent said the commercials made them want to stop smoking, but only 9 percent reported that the commercials had helped them cut down, and none reported that they had made them stop.¹⁹

The Health Education Council in their evaluation of their Spring 1977 T.V. anti-smoking campaign carried out immediately after the campaign found that awareness of the television commercial increased, in the test areas from 23 percent pre-campaign to 60 percent post-campaign. Prompted awareness post-campaign was 71 percent. In the spontaneous awareness of the advertising message there was an increase in the mentions of the anti-social aspects of smoking from 17 percent to 39 percent with the control area remaining constant at 12 percent and 15 percent.²⁰

O'Keefe, in a study in Florida, in an area where the traffic managers in the three T.V. stations servicing the area reported that the "viewer could be exposed to between 80 and 100 anti-smoking commercials in a week, found that 10 percent of his sample of 1,000 adults and adolescents in 1969 had never seen a single anti-smoking commercial and of those who had only 50 percent were able to recall a specific commercial. The findings showed that non-smokers were more likely to perceive the commercials as being effective; 69-91 percent of non-smokers said that they thought the commercials were effective while 52.3 percent of the smokers held this view. Non-smokers were much more likely to credit the company with getting smokers to stop. Smokers on the other hand

were much more likely to say that they did not believe the commercials would have any effect.

(See table 2 below.)

TABLE 2
Kinds of Effects Smokers and Nonsmokers Believe
Anti-Smoking Commercials Have

| Effect | Students | | General Population | |
|---|--------------------|-----------------------|--------------------|-----------------------|
| | Smokers N = 130 | Nonsmokers N = 491 | Smokers N = 126 | Nonsmokers N = 174 |
| Scare people to stop smoking | 5.8% | 8.4% | 9.3% | 3.8% |
| Change smoking habits by making people cut down or quit | 23.5 | 33.8 | 17.3 | 43.7 |
| Serve as basis for decision whether to stop or start | 5.9 | 8.7 | 10.7 | 12.6 |
| Make people think more of ill effects | 27.0 | 29.9 | 29.3 | 26.2 |
| Little or no effect on smokers | 34.1 | 14.5 | 30.6 | 12.6 |
| Not sure — depends on individual person | 3.7 | 4.7 | 2.8 | 1.1 |
| | 100% | 100% | 100% | 100% |

When the smokers were asked whether the commercials had affected their personal smoking habits, 34 percent of the students and 29 percent of the general population in the sample said they had cut down and 22 percent of the students but none of the others said the commercials made them stop smoking temporarily. O’Keefe states that one reason the commercials were not successful is that the majority of smokers surveyed did not want to stop. Thirty-seven percent said they wanted to quit, 34 percent were definite in their intention of not giving up and the rest were not sure. Those predisposed towards giving up smoking were much more likely to report that the anti-smoking commercials had affected their smoking habits. (See table 3 below.)

TABLE 3
Attitude Toward Smoking and Reported Impact of Commercials

| | Percent Reporting Student N = 130 | Commercials Had An Effect General Population N = 126 |
|---|---|--|
| Yes, I want to quit | 49.7% | 51.3% |
| Not sure | 30.6 | 10.0 |
| No, I do not want to Give up smoking | 17.6 | 16.6 |

The commercials were able to influence only a bare majority of the smokers who wanted to quit, and only about half of these reported that the commercials had helped them to cut down. In addition, 42 percent of those who said they wanted to give up smoking reported that the anti-smoking commercials acted as an

incentive to quit and by this they meant that they were a reminder of the dangerous effects smoking does have. Ex-smokers in the sample were asked why they had stopped and those who had never smoked were asked why they had never smoked. Only one percent credited the commercials with preventing them from smoking or helping them to quit. O'Keefe states, however, that some of those (almost 50 percent) who said they did not smoke because of the possible ill-effects had received this information from the commercials, although they did not credit them with this. The commercials had their greatest effect on those who smoked the least. The heavy smoker was markedly less inclined to be affected by the communication. Among the 2—3 pack a day group, not a single smoker reported the commercials affecting him in any way. In the student sample, on the other hand, the heavy smokers were most likely to report the commercial's influence while comments from the questionnaires suggested that the lighter smokers apparently felt that their behaviour would cause few if any problems. 63.1 percent of the student smokers and 72.7 percent of smokers in the general population subscribed to the belief that smoking is harmful to one's health with only about 10 percent claiming that smoking had no harmful effects, yet two-thirds of the sample had not changed their smoking habits.²¹

O'Keefe states that —

“the findings point to two important conclusions, namely that mass communications including those presented on T.V., are greatly limited in their ability to affect behaviour and that something else such as personal contact in the form of personal consultations or general smoking clinics were required to supplement the commercials for the campaign to have the desired effect.”²²

The second conclusion he drew was that many people have an apparent ability to live with a greater amount of dissonance than might be generally suspected.

Another T.V. campaign which has been evaluated is the Scottish Health Education Unit's 1976 Campaign on alcoholism. The main purpose of the campaign was to prompt individuals with drinking problems to seek help and advice but the possibility was also envisaged that the campaign might lead to a reduction in alcohol consumption in the general public, at least in the short-term although this was not a primary objective. The campaign evaluation was also used to see if there was any increase in public knowledge about the symptoms associated with alcoholism and any increased public awareness of the services available to help people with drinking problems. The campaign was centered around the autobiographical accounts of four abstinent alcoholics, three males and one female, and each of these was the subject of one of four separate films and newspaper advertisements. Plant, Pirie and Kreitman in their summary of the effects of the campaign state that —

“those who had seen the film were better informed about alcoholism by 5-10 percent than those who had not seen them. Even so, the campaign did not increase the level of knowledge about alcoholism of the population nor did it lead to reduced alcohol consumption during the eight month evaluation period.”²³

There was already a newspaper campaign in progress and that may have influenced the findings of the study by increasing public knowledge of alcoholism before the campaign began. In this case the baseline in the knowledge of symptoms and treatment agencies was extremely high .in the general population, roughly 80 percent.

3.9 percent of those interviewed reported that they had drunk less since seeing the T.V. or newspaper advertisements, though this claim was not supported by this group having drunk less than those who had not seen the campaign during the week preceding the interview. In any case. Plant et al. state that it could not be inferred that any reported reduction in consumption was caused by the SHEU campaign.

Since the level of knowledge was already high before the alcoholism campaign in Scotland, it may be that achieving the last 20 percent coverage is the most difficult. It is also interesting to note that the greatest increase in knowledge between viewers and non-viewers, of symptoms relating to drinking problems, of alcoholism treatment agencies, and of belief that problem drinkers can be helped, was in the forty-five plus age group, possibly because the four people featured in the programs were in the 40-55 age group.

The Scottish Health Education Unit, in the eleven months following the campaign, received 714 letters from people seeking help with drinking problems. New clients to the Glasgow Council on Alcoholism showed a 65 percent increase on the previous year, and 118 out of the total of 306 new clients said that they had acted after seeing publicity of some kind about alcoholism. Even then it could not be inferred that the publicity to which these people responded was necessarily the SHEU T.V. campaign, though the take-off point for a generally high rate of referrals did follow closely the beginning of the campaign.

The 1974 Anti-Alcoholism Campaign in Tyne-Tees illustrates some effects of mass media on attitudes, though as before it was

a multi-media campaign and so it was not possible to attribute the effects solely to the T.V. campaign. (The objective was to create awareness and inform the general public of the dangers of alcoholism including the problems which alcoholism places on the shoulders of the teenage population.) The evaluation tried to measure change in attitudes on such statements as “alcoholism is as serious a problem as drug-taking nowadays”, “regular drinking can be more of a danger to your health than most people realize”, “only fools get drunk”, “heavy drinkers don’t realize how much their families suffer”, etc. Immediately after the campaign, significant changes in attitude in the desired direction were recorded on most dimensions measured by agree/disagree statements. Three months after the campaign these attitudes had suffered a “decay” effect and had fallen back towards positions held at the pre-campaign stage. The position of the total sample had moved back significantly only in one instance (i.e., “alcoholism is as serious a problem as drug-taking nowadays”). Most of the other statements followed the same overall pattern (i.e., improvement in attitude followed by decline) although the movement of the total sample was not great enough to be statistically significant. This decay effect worked differentially in the sub-groups. In many cases an improvement in attitude achieved immediately after the campaign was maintained by women and non-regular-drinkers, while men’s and regular beer drinkers’ attitudes declined (significantly in some cases). Older informants were more likely to maintain a good position, while younger ones fell back (but never to the extent of men or regular beer drinkers).

Inquiries to the North Eastern Council on Alcoholism totalled over 900 in the three months following the campaigns. Of these,

however, only 21 percent were attributed to T.V. advertisements while 49 percent were due to press advertisements and 23 percent were due to radio and the remaining 7 percent were due to leaflets, posters, etc.²⁴

The foregoing studies illustrate the limitations of T.V. commercials and programs as agents of attitude and behaviour change in the smoking/drinking area. This, however, is not to say that the T.V. campaign is without value, but rather that we need to modify our expectations of what it can achieve. Mendelsohn (1973) noted —

“Our attempts to inject mass communication research principles and precepts into the creation of effective information campaigns have forced a considerable degree of humility upon all of us who wish to utilize the media for purposes of mass instruction and/or attitude-behaviour modification. By themselves, the media are relatively powerless in effecting changes of consequence.”

The utility of evaluating campaigns according to the amount of attitude change that they lead to is now being questioned. Research has questioned, in particular, the presumption of most attitude-change studies that relatively superficial change in isolated opinion statements can be equated with change in attitudes. Rokeach says that there has been a failure in attitude change theory to take into account that an object is always encountered in a situation. This separation of attitude-toward-object from attitude-toward-situation has in his opinion:

“resulted in a failure to appreciate that an attitude-object is always encountered within some situation about which we have an organized attitude. It has resulted in unsophisticated attempts to predict behaviour or behavioural change on the basis of a single attitude-toward-object, ignoring the equally relevant attitude-toward-situation. And it has resulted in unjustified interpretations and conclusions that there are often inconsistencies between attitudes and behaviour, or between attitude change and behavioural change.”

A concrete example of this division is provided in Swift, Dorn & Thomson's "Evaluation of Drug Education" (1974). Speaking of students' attitudes to the drug issue, they state that —

“there is no evidence that an increased anti-drug attitude to ‘drugs’ in general precludes an increase in intentions to take specific drugs if offered. For instance, an increase in pupils’ intentions to take cannabis is sometimes associated with a change to a more negative attitude to drugs as a class.”²⁶

To return to the point being discussed here on the relevance of Rokeach's theory for the effects of T.V. campaigns, we might be led to conclude that we should not lay too much emphasis on small changes in attitude following campaigns in the few instances where these can be shown to take place, especially where these changes have been measured by taking single and isolated expressions of opinion which can be relatively uninvolved and “thus easily capable of manipulation within the content of a relatively brief experimental session.”²⁷

It would appear that a more significant effect may be the number of people who are led to take a specific action as a result of a T.V. or other mass media campaign, though it is accepted that not all types of ads or programs can lead on to this outcome. It should also be borne in mind that the fact that people do not cut down on drinking or smoking as a result of a particular T.V. campaign does not mean that such campaigns have been totally ineffective. Drinking and smoking behaviour is built up over a period of time, is often integrated into people's life style, and it is unlikely that long-term modification of these habits is going to occur overnight. However, while behaviour change may not occur immediately as a result of a particular campaign, a series of such campaigns, supplemented by

other strategies, may over a period of time, lead to a cumulative build-up of evidence and social pressure that influences people to modify their habits. From this point of view T.V. campaigns are an input into the social influence/information network within which behavioural choices are made.

In terms of immediate effects, it would appear that T.V. campaigns function best where a specific step is advocated, e.g., where people are given an address where they can write or call for further information. While, again, such action may not necessarily lead immediately to habit change, it creates interest which, over a period of time, may become the springboard for such change. In this way T.V. may serve a useful function as a disseminator of information. Hans Mohl in his paper, "Use of T.V. in Health Education - Facts and Prospects," read at the 1969 Hamburg Seminar on Behavioural Change Through Health Education, presents some concrete evidence of this from German (Federal Republic) T.V. To quote Mohl —

"When we announced the booklet 'Immediate Steps to take at the Scene of an Accident' (in collaboration with the Red Cross) the demand for copies reached over 140,000 within the first week. In other fields also, brochures and leaflets which had been sitting for months in some warehouse were soon out of print after their mention on T.V. Better co-ordination therefore could certainly achieve more."²⁸

Mohl in the same article also gives evidence of high viewer interest in health programs in the late sixties.

"In Germany with its Health Magazine, the Second Channel is competing with the popular current affairs series Panorama and Report transmitted on the First Channel. Despite this, it has succeeded in gaining the attention over the year of more than 25 percent of viewers. The Infratest Institute examines how viewers receive a program according to a scale which ranges from -10 to +10. Here we find health programs occupying a leading position.

Individual programs have obtained ratings from +8 while +7 is far from being exceptional. The Health Magazine obtained an average of +6 for 1967 and 1968. Taking the average over the whole year, 90 percent of all viewers gave a favourable assessment and there were only very few criticisms. This is not merely an acknowledgement that the programs were particularly successful but also clearly illustrates the interest taken in the subject of health.”

Writing of programs in the Federal Republic of Germany in 1969, Mohl states —

“We have developed this year a five-minute health program including a minimum gymnastic schedule. Viewer interest was very high and in one single day we received almost 100,000 queries relating to this test and this health program.”²⁹

In the same article Mohl outlines a method that seemed to increase viewer interest and attention in a particular T.V. health education program. In a first aid program, which outlined the steps to be taken in an emergency, the station learned from subsequent enquiries and from spontaneous telephone calls that details which had been repeated unmistakably several times in the programs had not been made clear. It seemed to be a problem of lack of attention to the program. It was decided to incorporate a quiz which showed an accident situation and asked which of three solutions was the correct one. The results were quite different this time. The viewer, if he wanted to win at the game, had to pay greater attention. Now he was taking an active part. The enquiry forms were returned immediately and the Information had made a much deeper impression. While this type of audience participation could not be incorporated in all health education programs, it may be useful in some situations as a means of increasing audience attention.

Mohl emphasized the importance of brief and frequent repetition of important health information.

“Brief daily references in programs could repeat the most important information in a continually varied form. The future will most certainly be with this health spot type of information, i.e., short transmissions on the early warning signs of certain diseases, the most important rules for treatment, the major errors in health behaviour, advice on nutrition, the most urgent first-aid measures to take at the scene of an accident and a variety of recommendations for preventing accidents.”³⁰

Mohl also emphasized the importance of good timing with these short spot-type programs. He mentioned, for example, the importance of timing accident information on the eve of the days when most of these tend to occur.

The importance of being clear on the particular target group at which a mass media campaign is directed is emphasized when one comes to consider the use of radio in health education. Speaking at the same 1969 Hamburg Seminar on Health Education, Gerald Unholzer in his paper, “Broadcasting: Its Potentialities for Health Education,” had this to say:

“Broadcasting cannot be expected to have an impact on health knowledge and behaviour through a series of lectures. It should instead use an approach which has already proved successful — short and down-to-earth instruction on questions of nutrition, hygiene, child care, accident prevention, and other questions which may arise. To give an example: the program of the West German Broadcasting Station ‘At Home and Outdoors’ is heard by some 900,000 listeners, mainly housewives in the North Rhein/Westphalia area. In this program, four short reports are broadcast in loose succession, the so-called ‘useful tips for everybody’ which deal with a variety of subjects including suggestions for holiday tours, novelties, the establishment of a swap-shop for children’s wear, instructions on pension schemes, the treatment of colds and special diets. These tips meet expectations of listeners and contribute essentially to a positive attitude towards the whole program. -Listeners look on these reports as interesting suggestions or welcome encouragement.

An enquiry was undertaken to determine interest in the various topics covered and results were:

| | |
|---|-----|
| Health problems | 65% |
| Legal questions in everyday life | 57% |
| Housekeeping and nutrition | 57% |
| Education problems | 43% |
| Correct behaviour in traffic..... | 40% |
| Pension schemes and social problems | 38% |

The results of this program inquiry indicate clearly that health problems aroused the most interest and that listeners expected broadcast to provide further information.³¹

Dr. Enrique Grande of Argentina, in a paper read at the VIIth International Conference on Health and Health Education in Buenos Aires 1969, had a similar view of the role of broadcasting in health education —

“Short and precise messages succeed in retaining an adequate level of attention and constitute therefore an effective means of developing knowledge concerning various aspects of everyday life, particularly with regard to the best way of providing child care.”³²

Dr. Grande goes on to describe a series of radio talks of three minutes duration dealing with everyday problems and emergencies and organized by the Department of Health Education of the Secretariat of State for Public Health. The talks were preceded and followed by advertising from a well known *firm* selling articles for the home but without the slightest connection between their promotions and the content of the talks. In all, 103 talks were given over a period of four months and could be roughly classified as follows:

- 1) advice on prevention, particularly vaccination;
- 2) advice on nutrition, drawing attention to ingredients available locally but not traditionally used, with particular emphasis on protein value, education of and facility of preparation.

- 3) prevention of accidents;
- 4) analysis of behaviour problems;
- 5) first aid, emphasizing a realistic approach and always stressing the need to alert the nearest medical service;
- 6) home nursing, i.e., techniques of patient care, etc.;
- 7) warning signs of practical interest, which may or may not be connected with an illness but need checking; .
- 8) precise explanation concerning childhood diseases.

Health hazards were pointed out objectively but the talks carefully avoided creating excess concern or arousing unjustified fears. The talk which was read from a prepared script always ended with precise conclusions.

It would appear that the talks aroused a considerable degree of interest. The advertising firm chose ten of the talks as a basis for an attractively illustrated booklet which was made available to listeners on request. A total of 15,000 copies were published, yet demand was three times greater. Dr. Grande states that —

“while it was not possible to make a systematic study of the motivational response, it was possible to appreciate, through the correspondence, that interest lay mostly in the positive advice, generally without reference to illness, and in description of practices which made it possible to achieve greater comfort, as for instance, techniques of bathing small children, or which facilitated a better nutrition.”³³

It would appear that for particular target groups health education programs on radio can certainly be interest arousing. For any given society, however, it would need to be clarified what sub-groups are most likely to use radio and at what times. It would seem, however, that where T.V., radio and press advertisements are used in a multi-media campaign that T.V. advertisements

have the greatest overall penetration.^{34,35} However, when considering the comparative effectiveness of these different media, the particular target group for the campaign needs to be taken into account — many old people may have formed radio listening habits before T.V. became widespread, similarly, housewives are more likely to listen to radio than to watch T.V. while doing their housework, though of course this could vary from one community to another depending on the T.V. services provided. Similarly, general news magazines are more likely to be used by the better educated section of the community and those of higher income. Schramm³⁶ found this to be so in his study of knowledge of fluoridation among the American public and, while such a finding could not necessarily be generalized to another society, it is quite likely to hold true in many developed societies. Vertinsky et al., in her article “Health Information Diffusion — an Integrated Model” states that —

“the poorly educated use personal contacts as their primary source of knowledge and are far more likely to use radio and television than magazines and newspapers .”³⁷

ROLE OF HEALTH PERSONNEL

The overall picture to emerge would seem to be that while the mass media have a definite role to play in the interest arousing and information dissemination stage of health education, any further effects in terms of attitude and behaviour change are mediated by more personal agents of socialization such as family, local community or health personnel. It would appear that for health education to have behavioural consequence, simultaneous

with mass media campaigns, there needs to be more direct contact at local level with specific target groups. The WHO/H.S.S. report “Smoking and Health” (1971) states that —

“a person receiving medical information through mass communication will not usually act on it unless it is validated by the person whom he considers to be knowledgeable in the matter. This is one reason for the importance of obtaining the active support of health workers to confirm mass communication on the subject of health.”³⁸

The HEC has come to recognize the importance of involving local health and social service personnel in its campaigns. In its 1977-78 “Wise Use of Alcohol Campaign” in the Tyne-Tees area, the planning and execution of the campaign was a team job. To quote Dr. George Cust —

“The Area Health Authorities, the National Council on Alcoholism, Alcoholics Anonymous, Teachers’ Advisory Council on Alcohol and Drug Education (TACADE), Department of Health and Social Security and the Health Education Council were all active participants with cross representation on a central steering committee and a regional steering committee. From June 1977 onwards great efforts were made to educate and prepare health care and social work professionals before the campaign began by means of single-profession and multi-profession seminars. TACADE accepted responsibility for leadership of the effort with school teachers and schools. The HEC produced new T.V. commercials and leaflets. As a result of these various efforts, enquiries increased in four new areas.

- 1) Requests from Social Service Departments and health visitors for speakers and programs for in-service training.
- 2) More and more general practitioners are becoming involved and are willing to accept referrals from the National Council on Alcoholism’s regional office and also to send clients to the office for counselling.
- 3) A considerable response from industry from both large and small companies who wished to explore the possibility of introducing a company policy.
- 4) A large increase in personal enquiries.”³⁹

An earlier article from the Research and Information Department of the Health Education Bureau, “Research on Alcohol and Drug Use Information in England — A Short Review”⁴⁰ referred to the study, “Responding to Drinking Problems: by Shaw, Cartwright, Sprattley and Harwin at the Maudsley Hospital. This study outlines the gaps in knowledge, attitudes and behaviour of community agents such as G.P.s and social workers in relation to drinking problems in London communities. While full details of the findings can be found in the book itself, and it not proposed to elaborate on them here, it might be relevant to mention that the main recommendation of the study on the basis of the experimental Community Alcohol Training Program, undertaken by the Maudsley, was that on-going support for community agents should be the responsibility of statutory specialist services— in particular, psychiatric alcoholism services — and that personnel from such services should deploy some of their expertise in the community by providing role-support for general agents and ideally also by providing inservice training-in clinical information and counselling skills.⁴¹

Lawrence Green has stated that —

“health educators in medical care settings could do more by working with physicians and nurses on their educational relationships with patients than by working directly with patients themselves.”⁴²

The WHO report, “Health Education of the Public,” has stated —

“that every contact the public has with health workers is a learning situation which may be positive or negative in effect⁴³ ...

... it is essential that all health workers be trained to make the best possible use of all health education opportunities and to possess both knowledge and skills in the use of educational methods, approaches and media.

In this respect, particular attention is drawn to the important role of physicians, nurses, medical-social and social workers, environmental/sanitation personnel, nutritionists, midwives and other education workers.⁷⁷⁴⁴

It would appear that health and social personnel are a prime target group for health education themselves and that they in turn can fulfill an important personal contact type health education role with specific target groups at local level.

A scheme of health education undertaken at local level by the Health & Welfare Department at Aberdeen in the years 1956-1960 is outlined by MacQueen writing in *The Medical Officer* (1960). Major aspects were:

- 1) over 1,000 health meetings were addressed annually;
- 2) the main concentration was on expectant mothers and parents of pre-school children;
- 3) health teaching was given largely in systematic courses, not sporadic lectures;
- 4) stress was laid particularly on promotion of mental and emotional health, e.g., on the developmental needs and problems of children;
- 5) a combination of discussion methods and didactic teaching was attempted;
- 6) courses were carefully planned and visual and audiovisual aids widely used;
- 7) the organization of the scheme was entrusted to health visitor tutors, who were thereby enabled to remain in touch with the changing needs and problems of the community; and,
- 8) to facilitate integration with individual health teaching by family health visitors, most of the work was undertaken by the health visitor tutors and by selected health visitors,

although on occasion clergymen, medical officers, dental officers social workers, public health inspectors, infant teachers and nursery matrons were brought in for subjects on which they had special knowledge. At each parents' health club the average nightly attendance was over 30 and some courses for expectant mothers had to be split to keep the groups small enough for informal discussion. Results from the study as quoted by MacQueen showed an improvement in the health factors covered by the courses — details of these are given in MacQueen's paper.⁴⁵ However, MacQueen does introduce a cautionary note at the end —

“The value of health education on the Aberdeen lines' is established for an urban community with a combined Health and Welfare Department and with a reasonable number of health visitors who act as general purpose family health teachers and social advisors. It is not logically justifiable to assume that health education on exactly these lines would necessarily benefit a rural community or a community with a very inadequate health visiting staff, or a community which employs different visitors for the expectant mother, the baby, the school child and the aged.”⁴⁶

Bearing MacQueen's caution in mind and also the fact that this refers to a health education scheme twenty years ago, it might have some lessons to teach about the effectiveness of personal contact in health education schemes at local level. The importance of the use of health personnel, particularly public health nurses, is emphasized in the North Karelia project in Finland — a subprogram of which is an anti-smoking campaign.⁴⁷ Detail on this project will be given in chpt. 3 of this report.

The importance of making use of existing health and welfare personnel is emphasized also by Scott K. Simmonds in his supplement to *International Journal of Health Education* — “Emerging Challenges in Health Education.” He speaks of the compromise

model of health education as being most appropriate to European requirements. By this he means that a formal structure of health education services exists which is manned by health education specialists and health education is also integrated into other professional activities.⁴⁸ To quote from Simmonds —

“From my experience in the United States, and consultation activities in other parts of the world, it seems to me the so-called ‘compromise’ model is the emerging model simply because of its inherent logic. It is evident that there is support for the so-called ‘compromise’ model from the specialists in health education for it has always been our concern that others join with us, and that we join with them, in carrying out health education. I sense no real conflict with this viewpoint in I.U.H.E. circles. It has been the position of the WHO that health education is a basic function and responsibility of the health services and administration of health services and other social development services.”⁴⁹

Simmonds continues —

“At the local level, whether people are in villages, in the schools, in health care institutions, at work, or elsewhere, someone has to carry out health education. Those disciplines currently functioning in these settings who have day-to-day contact with the people themselves are, in my opinion, best suited for this job — whether they be social workers, teachers, nurses, physicians, community development workers or other workers. In some places where resources are available, junior level health education workers might be employed.

At a higher level of organization, either in large organizations or on a regional or a geographic basis, there needs to be provided services for consultation training, program planning, materials development, evaluation. Large-scale communication programs integrated into the health services program perhaps need to be planned and operated at this level. This is a full-time health education management job and does indeed require the best talent available, specifically trained for this function. In large municipalities, districts, provinces and at national levels, these functions will be needed.

At regional and national levels, there will need to be very specialized functions of evaluation, research, training and policy development. In my opinion these functions are performed ideally by those with considerable experience in the other two levels, and with advanced preparation in health education and the behavioural sciences. I think that we have gone far enough in health education not to be debating the either/or question. The ‘compromise model’ has always been the best model- our task is to implement it within the unique culture and health care system in our individual countries.”⁵⁰

RECEIVER VARIABLES

Simultaneous with a consideration of the different strategies health education can use it is necessary to take into account the dynamics of the receivers, and to recognize that any health communication is mediated by socio-psychological characteristics in the receiver and in his environment. Simmonds describes a Health Belief Model developed by Hochbaum which was subsequently elaborated on by others. The Health Belief Model attempts to describe behaviour or decision making under conditions of uncertainty. It states that:

- 1) the individual's readiness to take action relative to a particular health condition is determined by both the person's perceived susceptibility or vulnerability to a particular condition, and by his perceptions of the severity of the consequences of contracting the condition;
- 2) the individual's evaluation of the advocated health action in terms of its feasibility and efficaciousness weighted against his perception of the psychological and other costs of the proposed action; and,
- 3) a stimulus, either internal or external, occurs to trigger the appropriate health behaviour.⁵¹

From this model it is possible to posit different levels of motivation in different groups in the community. At one end of the spectrum there are those who are highly motivated to improve their health behaviour. Simmonds speaks of the burgeoning of self-help groups —

“from current activities underway in many countries, we have to acknowledge that one of the most significant developments in groups comes not from research or practice but is from the so-called self-help movement. In a sense this movement could be called a return to basic community

organization, group work and community development but there is a difference. This new movement has grown partially out of a great dissatisfaction and lack of trust of those in power and with resources at their command. It is partially a revolt against an uncaring health care system and social malpractice at all levels. It is manifested in the women's health movement which is teaching self-reliance; it is manifested in programs to enable people to care for themselves better without having to go to the doctor; it is manifested in many categorical disease programs involving volunteers helping others like themselves; it is manifested in the organization groups to improve housing, and in fact in many groups formed to obtain the benefits of the services they are entitled to. It is built more and more on the strengths of the educated consumer who may or may not need us as professionals, and if he does will decide where and when. I think it will be a remarkable movement when it reaches its full development. It fits well with our ideas in health education about helping people achieve their goals not ours. It fits well with our ideas of volunteerism and an activated society.”⁵²

These already “energized” groups (the creation of which -might itself be viewed as a possible aim of health education) will obviously require more in terms of information than in terms of persuasion from a health education program. As Simmonds quotes Levin —

“This movement will require value reorientation of health professionals and lay persons to acknowledge and honour the social benefits beyond the health benefits; a new social contract between professionals and lay persons; and abandonment of arbitrary and oppressive differentiation between provider and consumer.”

While these already motivated groups constitute one end of the social spectrum, at the other end there is a body of poorly motivated people. Lawrence Green has stated that —

“the initial diagnostic problem of the health educator is in identifying high-risk individuals for whom voluntary preventive health action is lacking, delayed, infrequent, inappropriate, limited, incomplete or inconsistent.”⁵⁴

He continues —

“The primary objective of health education should be to determine the basis for the attitudes and behaviour of the ‘hard to reach’ and then to assist in identifying changes

that are needed both in the delivery system and in the attitudes and behaviour of the deliverers. Where this approach has been taken such simple solutions as changing clinic hours have sometimes been found.”⁵⁵

In terms of hard-to-reach individuals, it is also important to bear in mind that taking preventive health action in many cases involves a future orientation and that in many social groups, planning for the future is of far less importance than present day needs. Vertinsky, in her article, “Health Information Diffusion - An Integrated Model,” calls attention to this point and sees a potential conflict when a future oriented health educator comes up against a traditionally bound citizenry, or section thereof.⁵⁶

Green has drawn up a scheme (see below) which may be useful for locating people according to their degree of psychological readiness for healthful behaviour and the social supports in their environment for it.

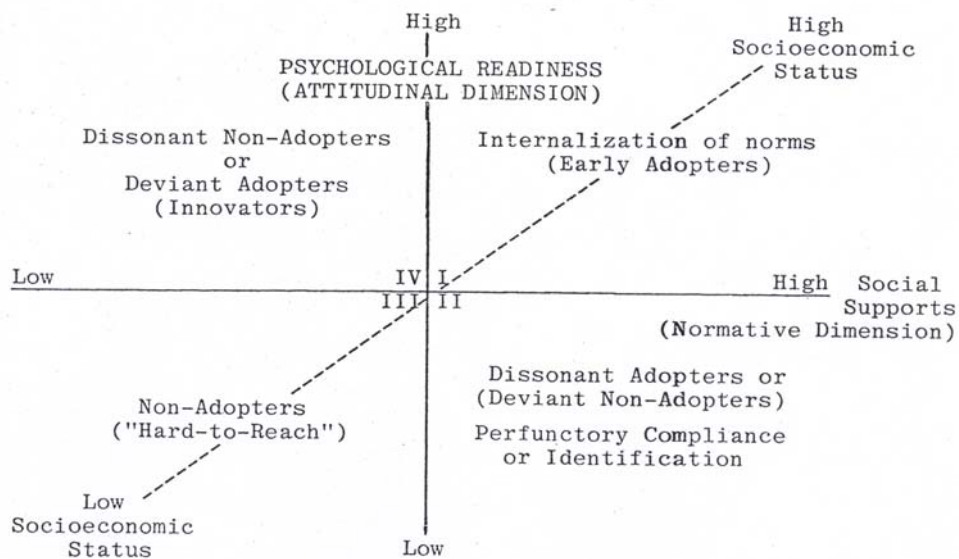


Fig. 1. Classification of Change Process and Social-Psychological Behaviour under Different Conditions of Psychological Readiness and Social Support.

In this scheme an individual is placed at a point on the vertical axis according to the extent of his psychological readiness to adopt a preventive health practice and on the horizontal axis according to the degree of social support for the practice. If both are positive, an individual would be placed in quadrant I and would be characterized as “well adjusted” from the point of view of preventive health and from the standpoint of his social groups. At the other extreme are individuals in quadrant III for whom psychological readiness and social support are negative or lacking. These individuals would not be as likely to adopt preventive health practice and would be characterized as “hard-to-reach.” They would nevertheless be well adjusted by the standards of their own social groups. In quadrant II would be found individuals who have the psychological readiness for healthful behaviour but lack the social support — they will either be adopters of healthful practices and deviant from their own group, in other words, innovators, or they will conform with the practices of their groups though they do not believe in the efficacy of the behaviour. The latter type would seem to be a particularly receptive target for health education intervention.

In quadrant IV are found individuals who either adopt healthful practices without believing in their efficacy — in other words give outward compliance — or do not adopt healthful practices even though the social support is high in their group. Persistent smokers who are aware of the dangers of smoking and who believe in the efficacy of quitting smoking as a preventive behaviour are illustrative of the dissonant non-adopter in quadrant II and special smoking cessation groups can be a substitute social support for such persons.

Green states that the population is not evenly distributed among the four quadrants for any

given health practice. The psychological and social support dimensions are not completely independent but tend to be positively correlated so that as social support increases, psychological readiness also tends to increase, so that most cases fall in quadrants I and III.

The distribution between the different quadrants can also differ for given health practices but the scheme provides a useful framework that could be applied when looking at various target groups for a health education program. The type of approach most useful in one might either be unnecessary or ineffective another. For example. Green states that to help a person who was psychologically ready for healthful behaviour to cope with an unfavourable social climate one could engage the active support of selected friends or relatives close to the patient in his daily routine. Thus, husbands or wives are sometimes urged to participate in educational programs, smoking withdrawal clinics or therapy groups along with their spouses. This strategy serves to provide a continuing source of social support and pressure in an otherwise unfavourable social environment.

For the other type of person in quadrant II, that is, the person who deviates from a social norm of support for healthful practices. Green states that one strategy would be to bring him into closer or more frequent contact with his reference groups and to stimulate discussion of desired health behaviour among these groups. It is this principle which is operative in successful programs employing neighborhood group meetings, neighborhood home visitors, indigenous community workers, and other peer oriented methods.

Green suggests a number of other strategies that might be borne in mind as possibly useful

aspects of specific programs. As one approach, Green suggests reinforcement strategies which begin with the proposition that most behaviour leads to consequences which either increase or decrease the probability of similar behaviour in the future. If a first contact with a preventive health agent or clinic is positive and rewarding, it is likely that the behaviour will recur. Elling, Whittemore and Green conducted home interviews with women who had attended a paediatric clinic asking them to tell what they felt the doctors thought of them. There was a clear relationship between feeling positively evaluated by clinic physicians and compliance with the preventive behaviour recommended by the clinic. The association between reflexive self-concept and continued preventive action persisted when other variables correlated with behaviour were held constant. Evidently when clinic staff succeeded in conveying a positive attitude toward the women they directly re-inforced the health behaviour.⁵⁷

The second strategy suggested by the social learning approach is vicarious re-inforcement. The same women who have been directly re-inforced at the clinic may provide vicarious re-information for their friends and relatives. It is frequently noted that a satisfied customer or consumer is the best agent for a program. According to Green this strategy was employed by the Los Angeles Branch of the American Cancer Society in its "family plan" for Mexican-American women. Patients were mobilized to contact other women in their extended families and to tell them about the "pap" smear program. The patients themselves

participated in planning their own approach and educational materials for the project, so that they

apparently embarked on their diffusion tasks with sufficient enthusiasm to provide vicarious reinforcement for their relatives.⁵⁸

Green also recommends consideration of what he calls participation and involvement strategies, on the basis that when groups are allowed to participate early and actively in the collection of information and the making of decisions upon that information, they become more committed to the actions decided upon. The principle here is that the population or representatives of the population, should participate in the planning of programs to be directed at them. They should be involved in the earliest phases of planning, including the identification of their needs and problems, the setting of objectives and the establishment of priorities. Participation at this stage serves at least three functions. It assumes:

- a) that the program is “relevant” to the needs of the population to be served;
- b) it produces a kind of personal commitment to the program on the part of at least a segment of the population which in turn gives the program some impetus from within the population; and
- c) it provides the planners with inside advice on potential barriers to the acceptance of preventive health information and practices.

Green also mentions the need for those in preventive services to take different personality types into account and to recognize that apparently isolated attitudes towards screening tests, etc., may serve needs that the individual may not consciously recognize in himself, needs which may underlie whole

syndromes of attitudes, values, beliefs, fears and behaviour. A National survey of attitudes quoted

by Turner⁵⁹ in America towards the preventive check-up revealed that men tended to associate reluctance to get a medical check-up with manliness. Hammershlag⁶⁰ and associates found that women who delayed in seeking treatment for breast cancer were characterized by personality traits of autonomy and a clearly delineated sense of identity. They were neither passive nor anxious. Similarly, Green states that an independent autonomous personality may be conducive to initiative in certain kinds of preventive health behaviour without medical supervision but resistant to assuming a dependent relationship to physicians or nurses in following medical advice.

These relationships suggest different educational strategies to deal separately with problem cases at different points in the medical-care continuum. Green states that consideration of personality variables associated with non-adopters of health practices at pre-diagnosis points, reveals the need for appeals that emphasize the responsibility of the autonomous individual to obtain medical examinations for the sake of the family rather than appeals to personal fears and that these same individuals need to be assured that their relationship to the medical team is not one of the subordination but rather of mutual co-operation Green continues —

Physicians and nurses need to be trained to deal with such patients as autonomous individuals and not to place them in dependency roles. Health educators in medical care settings could do more by working with physicians and nurses on their educational relationships with patients than by working directly with patients themselves.”⁶¹

CONCLUSION

It has to be borne in mind in any consideration of educational strategies, that what can be

achieved by any approach is influenced by what is physically and socially possible for people and that this depends on the provision of social, economic and political supports in a society — the consideration of which is outside the scope of this report.

Overall, leaving aside the question of health education in schools, one could say that the mass media, particularly T.V., are useful strategies in the creation of awareness, interest and information giving stages and that simultaneous with this and/or as a follow-up, it is necessary to have more local personal contact-type methods which would use a combination of specialized health educators and existing health and welfare personnel and which would take into account social and psychological characteristics of particular target groups.

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CHAPTER II

ALCOHOL EDUCATION

While it may emerge at the end of the report that there are, in fact, strong underlying similarities in an approach to alcohol, cigarette and drug use education, for the purposes of the organization of material, they will initially be considered separately. In any case, the level of use and social support for, or disapproval of, abuse of the three substances may differ in a given society.

At the risk of starting on a negative note but with the aim of putting the chapter in perspective at the start, a quote from Gerard Globetti writing in 1974 on “A conceptual analysis of the effectiveness of alcohol education programs” might be useful —

“There has been little research on who has been saying what about alcohol, to whom and with what effect. Thus, the kinds of critical evaluation which lead to generalization about effective methods of conveying information about alcohol are almost non-existent.

Evaluation studies of the educational enterprise are difficult for two principal reasons. First, there is a general inability to obtain widespread consensus on what should be the ultimate aims of alcohol education. Goals range from an emphasis on abstinence to a stress on decision-making and the formation of values. This lack of agreement has led to a kind of immobilization of evaluation studies where, by default, nothing is done because no one is sure what is to be achieved. Second, the methodological considerations required to detect changes in behaviour and attitudes are difficult to approximate in real life situations. An adequate evaluation procedure would have to be longitudinal in nature and would have to measure attitudes and behaviour, not only at the point of departure but also at subsequent periods of time. Furthermore, random assignments into program and non-program groups would have to be made along with the control of the research population's exposure to consequential variables extraneous to the education system. Up to this time such evaluation has been a rare amenity and has been too costly in terms of effort, time, and findings. As a

result, the determination of the effects of any given educational endeavour or innovation in the fields of alcohol education, except in rare instances, has usually been impressionistic or anecdotal in nature.”

Given these limitations, and acknowledging that it is not so far possible to point to any long-term evaluation project and say that those who had this particular education in alcohol use, have shown a life pattern of healthy use of alcohol afterwards — given these limitations, it is still possible to examine the area, and see what pointers there might be as to what might be the needs in this type of education and what possible strategies might be effective.

If one were to start at the most general level and work towards specific points, then a consideration of the role of alcohol in a given culture would be in order. General cultural attitudes to alcohol in Ireland have generally been regarded as ambivalent with, on the one hand, a large number of abstainers and, on the other, an apparently high tolerance for heavy drinking patterns. As in many societies, the heavy drinking pattern is regarded as fun so long as it does not reach too close to home. Few people would probably find it funny to have a spouse, child or parent coming home drunk, but there is nevertheless a general excusing of heavy social drinking in many quarters. To quote from Caruana Cowley & Rutherford writing in Tacade’s publication “Teaching About Alcohol and Drinking” —

“We may be able to move closer to a healthier attitude towards alcohol, if we can persuade pupils that drunken-ness is not acceptable and that it is not funny. Perhaps this could be tackled by examining why people get drunk, what the pupils think of people who get drunk, and attempting thereby to get rid of the myth that being drunk is funny.”²

The ambivalence in Irish attitudes towards alcohol use should be pointed out in any adult education program on alcohol use, as it provides, on the one hand, a social support for behaviour likely to lead to a drinking problem and, on the other, can create strong guilt feelings. It is interesting to note that McGreil in his study in Dublin, "Prejudice and Tolerance in Ireland," found that heavy drinkers and alcoholics are unpopular and the objects of fairly severe rejection.³

Davies and Stacey, as mentioned in chpt. 1, pointed out that for young people drinking had strong associations of attractiveness, toughness and ability to look after one's self, and that for them, not drinking indicates weakness, unattractiveness and lack of maturity.⁴ That all adults have a responsibility for this aspect of alcohol education is a fact which would seem to need stressing in any health education program for parents, teachers, health and welfare personnel, etc. It is a necessary component of any overall strategy in alcohol education as any more specific program in school will be mediated by the broad general cultural attitude. A specific way in which an attempt might be made to counteract the attractiveness of heavy drinking images is by encouraging a review of self-images in relation to drinking. Advertisements which associate drunkenness with repulsion might help in this respect, though, of course, there is need to balance this with a consideration that for people who are already, or may become in the future, heavy drinkers, there is a possibility of this repulsive type of image leading to a self-fulfilling prophecy which may make it more difficult for them to improve their drinking behaviour and easier for them to become more dependent on alcohol. A more positive approach would perhaps

be as Davies and Stacey point out, for the health educator —

“To redress this imbalance by endeavouring to create a new, more attractive and possibly more realistic image of the non-drinker so that the decision not to drink no longer has implications about one’s potency or socialibility.”⁵

A sociological consideration of drinking patterns in different cultures in a second level education program as recommended by Caruana, Cowley and Rutherford in “Teaching About Alcohol and Drinking” might lead to an awareness of drinking and the amount and regularity of drinking as a choice which people make and which has no necessary association with being grown up or attractive. The role of all adults and particularly, those in contact with, or highly visible to, young people cannot be overlooked in this respect. While young people will be one obvious target of an alcohol education program, Mr. James Cowley, the Director of TACADE, has warned against conceptualizing drinking as being particularly associated with young people.

“To conceptualize anything as being particularly associated with young people can be counterproductive; from being simply a description of the adolescent behaviour of a small group, it can easily become the group norm, acting as a self-fulfilling prophecy.”⁷

Apart from this danger altogether, alcohol abuse is a pattern that in reality is found in all age groups, but there is a natural concern that young people might be able to learn a healthful approach to alcohol use from the start.

Image creation and general awareness of alcohol abuse as undesirable behaviour from a health point of view is seen as an area where the mass media can help and the effects of campaigns in the U.K. using this strategy have been given on pp. 22-25 of chpt. 1 of this report.

ALCOHOL EDUCATION PROGRAMS FOR YOUNG PEOPLE

One alcohol education program that was evaluated by pre-test, post-test, at one month, and again at one year, is a study reported by Williams, DiCicco and Unterberger in their article, "Philosophy and Evaluation of an Alcohol Education Program." This study was undertaken in a private school in a high socio-economic suburb of Boston among 11th grade students. A workshop was held for four successive weeks with school faculty members, mainly 11th grade religion teachers who were to lead alcohol discussion groups. The meetings of two groups of five or six were held during the evening and each lasted for approximately two hours: the teachers had an opportunity to express their own attitudes towards alcohol, and teenage drinking and to examine the implications. Attitudes were modified and clarified and, in the process, the teacher was exposed to the small group discussion method later used with the students. The philosophy of the program was the encouragement of attitudes of responsibility in drinking behaviour and encouragement of tolerance for the temperate use of alcohol, tolerance for abstaining, and intolerance for excessive drinking or the use of alcohol for personal effects.

The program for students was held for one week, Monday through Friday, during the times ordinarily scheduled for religion classes, and began two weeks after the training meetings for group leaders. For each class period students were pooled and assigned randomly either to experimental or control groups of 8 to 10 boys. Of the 205 juniors who participated in the study. 111 were assigned to one of the 12 experimental groups, and 94 to one of 10 control groups.

On the day the program began, it was announced that during the week a program of small group discussions would replace religion classes; that some groups would discuss drinking and others a series of topics other than drinking; that the Massachusetts Department of Public Health, which was conducting the program, was especially interested in alcohol education programs and everyone was being asked to complete a questionnaire about drinking at the beginning and end of the program, and again a month later.

The questionnaire was divided into three parts:

- 1) attitude scales;
- 2) 15 true or false fact questions about drinking (e.g., “Alcohol is described medically as a depressant,” “Food in the stomach slows down the absorption of alcohol and consequently slows down the rate of intoxication,” “An alcoholic is a person who can’t leave alcohol alone even for a day”);
- 3) 24 questions covering drinking behaviour and attitudes of students and their parents.

The students were asked how many times they had had drinks and how many times they had become “tight” or drunk during the previous year and the previous month. The students were not asked to identify themselves by name but made up a personal identification number which they were instructed to record so that they could use it at the post-test a month later. Details of the tests used and of the findings are given in the article itself so just a summary of the results will be given here.

The study showed that an intensive alcohol education program can affect attitudes positively and that changes which occur hold for at least a month but less than a year. Knowledge of facts

about alcohol increased significantly in the experimental but not in the control group, and the increases held up one month and one year later. When drinking behaviour was restudied a year after the program, the results showed some increase in the percentage of boys who had had drinks, but experimental and control subjects were not affected differentially. There was a slight tendency for experimental subjects who drank, to drink more often than controls; however, the difference was somewhat apparent at the pre-test when 7 percent more experimental than control subjects had drinks at least five times in the past year. There was a non-significant tendency for more experimental subjects than controls to have become intoxicated in the year after the study. Among those who got intoxicated, however, there was a very strong tendency for experimental subjects to have become intoxicated less often than controls. Thus, while slightly more experimental than control subjects got intoxicated, it appears that the program discouraged teenagers from becoming intoxicated often.⁸

Another alcohol education program with adolescents that is actually documented as having a favourable effect on behaviour is reported by Kurt Biener of the Institute of Social and Preventive Medicine in Zurich.⁹ This project was done with a group of 60 adolescent apprentices in a machine factory in a rural area of Switzerland. A group of 60 was used as a control group. Members of the two groups had no contact with each other. The teaching consisted of 36 lectures on health education supplemented by exhibits which were organized in cooperation with the apprentices. Attempts were also made to influence the leisure

time activities of the youths. The content of the program is outlined by Biener as follows.

Content of Health Education
(Ruti Study/Northern Switzerland)¹⁰

Instruction

Lectures on 36 themes followed by quizzes, round-table discussions, question and answer periods.

Visual aids

Five exhibits, fliers, design contests.

Literature

Distribution of special pamphlets, brochures and books.

Leisure time activities

Sport club activities, gymnastics for apprentices.

Other activities

First aid courses, courses for accident prevention, special evenings for parents, vaccination program, clinical diets for weight reduction in cooperation with the factory's cafeteria, special medical treatment and operations.

Tests were carried out on both groups, both at the beginning of the study and again four years later. Though these tests dealt with physical fitness, smoking behaviour and alcohol consumption, only the latter concerns us here. Alcoholic beverages were consumed by 92 percent of the controls as compared with 55 percent of the test group. Reasons given for not drinking alcohol were largely related to participation in sports. In the test group, 26 subjects occasionally drank alcoholic beverages at the beginning of the study; 33 did so at the end. In the control group 29 drank initially, while at the end of the study 55 drank occasionally. Among the 34 initial non-drinkers in the test

groups, 27 remained abstinent. The results were found to be significant according to the chi-square test.

In England the results of the prototype course, "Facts and Feelings about Drugs but Decisions about Situations," have been documented by Nicholas Dorn and Ann Thompson. This 5-10 hour course was designed to improve 14-15 year old pupils' knowledge and their decision-making skills vis-a-vis legal and illegal drugs including alcohol. The material used in the teaching exercise is in the booklet bearing the course title.¹¹ A main aim of the course was to enhance pupils' capacity to anticipate situations in which they would have to make decisions about drug use in the future and to improve their decision making ability. The final prototype course was evaluated in twenty schools in 12 England and ten schools in Denmark in 1975.¹² Experimental and control groups were used with each school and confidential questionnaires were administered three months after the project. The materials were not used in especially advantageous conditions but were used by the pupils' regular teachers, who received no special training.

The results of the experiment show that the knowledge goal was attained with all types of pupils (e.g., regardless of social class or examination likely to be taken, previous use of alcohol, etc.) in both countries. The average knowledge gain was in excess of one point on a ten-point scale of overall knowledge.

The goal of enhancing decision making skills was attained to at least some extent with most pupils. On average, pupils who participated in the prototype course did better than those who did not by about one quarter of a point on a ten-point scale.

But “the success in teaching decision-making skills depended partly on whether or not the teacher using the course favoured its goals. Pupils taught by teachers who themselves liked the decision-making communication, or knowledge goals of the prototype materials learned decision-making skills to a greater extent than did pupils taught by teachers who seemed to favour “anti-drug” goals of some kind. It was not a goal of the course to influence levels of legal or illegal drug use. However, the questionnaires showed that, while the course may have caused some English pupils who already smoked cigarettes to smoke less frequently, there were no other decreases or increases in use of legal or illegal drugs that could be attributed to the course.

In assessing this prototype course, it has to be borne in mind that it was a short course of 5 to 10 hours and was not integrated into an overall social and health education program. It was an attempt to assess the effectiveness of this particular component of what would ideally be a broader social and health education program. Secondly, the teachers teaching it did not have any special training and one might hypothesize that, as the results would suggest, not all of them were familiar with, or favourable to, the needs of teaching decision-making skills.¹³

Kunkle-Miller and Blane, in the *Journal of Drug Education* (1977) report on “A Small Group Approach to Youth Education About Alcohol.” This was a small-group effective approach to teaching high school youth about alcohol which stressed group exploration of student-generated questions and concerns, by creating an atmosphere of free emotional interchange in which students could

sort feelings, facts and myths. The aim was that students develop awareness and respect for values and beliefs of peers and examine their own drinking behaviour. Groups met weekly for forty-five minute sessions for eight to ten weeks. Techniques used included exercises to build up trust, skits based on student-suggested incidents, role playing and free art activities. The groups, which were composed of eight to ten volunteer students, were led by a graduate counsellor experienced in individual and group counselling with adolescents and knowledgeable about alcohol studies and alcoholism.¹⁴ The senior author of the article was, in fact, the counsellor on the project. The authors stated that their impression was that —

“while experience in individual and group counselling with adolescents and knowledge about alcohol are important, the most important qualities for a group leader include a capacity to generate trust in young people, an ability to be non-authoritarian and flexible, yet still maintain the respect of the students, youthfulness in spirit if not in age, and an awareness of his or her feelings and attitudes about alcohol. Each individual student is seen individually prior to entering a group in order to establish a relationship between student and counsellor, to screen out students who have problems better dealt with individually rather than in a group setting (e.g., a severe personal drinking problem), and to identify students whose motivation for joining the group is more to avoid other school responsibilities than to discuss alcohol.”

Further detail on the procedure at the meetings is given in the article itself. While no formal evaluation of the project was conducted, the authors observed the progress of the groups and had this to say —

“In all the groups conducted so far, students have spent much of the time exploring alcohol-related topics that they themselves have suggested. As a group continues to meet, the students appear to have less need for quick, concrete answers to those questions that admit of no simple solution and which are prone to emotional elaboration and distortion. They begin to learn to examine issues about alcohol rather than being satisfied with information. As part of this process, students in groups gradually begin to identify

and separate feelings and attitudes about alcohol, both positive and negative. They come to recognize that alcohol and drinking can attract and repel them at the same time and to identify for themselves conditions in which drinking is pleasurable and not pleasurable. They also come to know that there are differing beliefs about alcohol and that one's own beliefs may differ from those of others. Finally, 'as a group progresses, members spend more time examining their own drinking behaviour in ways which aren't just ego trips. For example, the student who initially boasts of his drinking capacity eventually owns up to his worry about injuring himself by drinking too much.

While the value of the group program we have described lies mainly in its potential for communicating information about alcohol in a meaningful way, the program provides more than that. For many students this type of group represents the first time in their school experience when they are exposed to a situation in which they can explore their feelings and experiences without fear of prejudice. Many of our participants were surprised that what they had to say was considered important and listened to. The groups also give adolescents a new perception of the kind of relationship that they can have with an adult, as well as with each other. Hopefully, all of these factors help the adolescent to elaborate and refine the manner in which he deals with life and normal developmental problems."¹⁶

While, as the authors admit, the question of whether the attainment of these immediate benefits results in changing drinking attitudes and behaviour remains open, the study is cited here as an example of an attempt to move away from a strictly fact-oriented type of course. As the authors themselves state, the approach is based on the notion —

“that education about personal behaviours is most effective when it addresses itself to questions and concerns expressed by students themselves, when it attempts to sort out feelings, facts and misinformation, and when it is conducted in a manner that engages the interest of students while respecting their integrity as individuals.”¹⁷

Whatever the method to be employed in alcohol education in schools, the prior question arises as to the goal. Globetti tackles this problem in his article mentioned previously, “A Conceptual Analysis of the Effectiveness of Alcohol Education Programs.” He states that the controversy in America is centered

around whether the abstinent or moderate drinking model has the best hope of success. He concludes that the abstinent model used in many American schools has not reduced either the incidence of drinking or alcohol related problems, and points out that this approach may exacerbate the situation by making alcohol use a forbidden item and therefore more attractive as a symbol for those who wish to demonstrate a contempt for authority. Moreover, he states that studies show that a teaching which implants a repugnance to drinking tends to identify the drinking act with personal and social disorganization. It may, therefore, suggest an inebriety pattern for drinking and may actually encourage the behaviour it most deplors.¹⁸

To quote again from Globetti —

“Evidence would suggest that the moderate drinking model offers the best hope for success. This approach maintains that problems related to alcohol arise when abusive drinking takes place and that moderate drinking is both acceptable and distinguishable from other styles of alcohol use. The aim is not to promote or prevent use, but rather to encourage responsible drinking habits without impinging on the individual’s freedom to abstain or drink as long as both behaviours are done in a responsible and tolerant manner. This appears to be the direction in which expert opinion in the field of alcohol education is headed.”¹⁹

However, as Globetti points out the question still remains as to whether the education program should focus on preparing the student for his adult drinking behaviour or on his relationship to alcohol while still a youth. Educators who take the latter approach run the risk of being accused of encouraging drinking by young people by accepting that in fact a number of young people do drink, and by helping them to clarify their feelings and make decisions about it. Globetti states that as a result of this controversy and of the fact that serving drink to people under eighteen on licenced premises is illegal, alcohol educators

have been reluctant to come to grips with the question of alcohol use among adolescents.

Davies and Stacey, in their study in Glasgow, found that by age 14, about 92 percent of boys and 85 percent of girls report that they “have tasted” alcohol — by age 17, these figures increase to about 98 percent for the boys and 96 percent for the girls.²⁰ Similarly, Hawker, in her study of adolescent drinking patterns in London, found that by age 16, 98 percent of both sexes had tasted alcoholic drink.²¹ O’Rourke, Wilson-Davis and Gough, in their survey of Dublin Secondary schools in 1970, found that three-quarters of the students — 80 percent of boys, 73 percent of girls — had taken an alcoholic drink. Some 13 percent of all boys and 10 percent of all girls stated that they were regular drinkers though this figure hides a distinct trend of regular drinking increasing with age. Fifty percent of the girls and 44 percent of the boys classified themselves as total abstainers at the time of the study. Four out of ten boys and 22 girls said that they took an occasional drink.²²

Given the above information it would seem unrealistic not to relate alcohol education to the pupil’s present situation. The project mentioned previously by Kunkle-Miller and Blane is one example of an approach which attempts to involve students’ own feelings about their own drinking or non-drinking behaviour. Such an approach balances somewhat the tendency in alcohol education (and in health education generally) to concentrate on the long-range consequences related to alcohol misuse with people who are in an age group that tends to be more concerned with immediate affairs rather than with the possible results in the distant future.

The question of the goals of an alcohol education program also raises the point of the extent to which it is useful to divorce this particular program from the wider issue of the general development of maturity and a sense of responsibility, and indeed raises the question as to whether alcohol education . . . is to be seen as a separate subject or one which achieves cover under different subject headings — chemistry, biology, sociology, psychology, religion, etc. (This question concerns not only alcohol education but also the two areas being considered in the other chapters ~ smoking education and drug education.)

On this point it might be worthwhile quoting Lawrence Cappiello — Professor of Health Education, State University of New York at Buffalo, writing in 1977 on “Prevention of Alcoholism — A Teaching Strategy.” He states —

“Our education programs have a tendency to deal with what appears to be obvious (the act of drinking) rather than to deal with the not so obvious (the cause of drinking).”²³

From the standpoint of educational programs designed to do something to influence behaviour, the following statement from Ewalt and Farnsworth is of prime importance —

“If one holds to the dynamic view, the cause of drinking is the cause of the basic stress, i.e., a neurosis, psychosis or some social situation beyond the adaptive capacity of the patient who finds that alcohol gives relief or fortifies his defenses.”²⁴

Cappiello goes on to suggest that educational programs designed to help the student understand and better cope with his total environment, including his neighborhood, his family and himself, are what is needed to help prevent problems that may lead to excessive use of alcohol, as well as other behavioural abnormalities in society. He emphasizes the need to help the student to cope better with anxiety and depression and to understand feelings of fear or insecurity.²⁵

Both Cappiello, and also Caruana, Cowley and Rutherford in TACADE's publication, "Teaching About Alcohol and Drinking," suggest that there is a need for co-ordination between many curricular activities in designing an alcohol education program. Caruana, Cowley and Rutherford suggest that the topic of alcohol can be covered in many subject areas, e.g.:

Chemistry — the pharmacology and properties of alcohol;

Biology — the action of alcohol in the nervous system, its metabolism and effect on health;

Geography — knowledge of people's cultural influences: industrial and agricultural patterns of drinking;

History — attempts at alleviating problems related to alcohol in the past;

Economics — the effects of prices on demand and the reasons for taxation of alcoholic beverages;

Religious or Moral Education — personality, development of personal relationships and awareness, education for the community, sensitivity to others and caring for the needs of others, decision-making skills;

English — alcohol in literary works; a critical examination of the use of advertising of alcohol.²⁶

The subject area in this scheme where most skill, sensitivity and innovativeness on the teachers' part would appear to be called for would be Religious or Moral Education since it is there that feelings and decision-making skills are being dealt with. One could also envisage such material being covered under other subject headings such as Social and Health Education. An approach such as that outlined earlier by Kunkle-Miller and Blane could perhaps be

modified and integrated into this area. A practical problem could well be the number of teachers who would feel competent to deal with the subject in this way. It is an area which can touch close to the teacher's own sensitivity and possible feelings of insecurity, and it is one where teachers themselves might be glad of special training to help them develop awareness of their own developmental needs as well as those of their students. To quote Globetti —

“The communicator must examine his own biases and feelings about alcohol. All too often teachers are hampered by the same misconceptions and fears which afflict the lay public.”²⁷

In a situation where special sensitivity is called for, the students' regular teacher should have the best chance of knowing students individually and of being aware of what groupings of students would be most beneficial for small group discussion, etc., or what particular students might be more personally sensitive in discussions than others. If, as seems to be the case, alcohol education is best integrated with other subjects and given by the pupils' regular teachers who would have the best knowledge of the pupils, then perhaps there is a case for special in-service training for those teachers dealing with the more sensitive areas of the programs, if they are not already counsellors or specially trained for leading groups of pupils in exploring their feelings in relation to themselves, to others, to their own behaviours, etc., and for increasing their decision-making skills.

It would appear that however necessary factual information on alcohol may be, of itself it is not sufficient and that a program where such things as self-esteem, social pressures, responsibility, decision-making, coping with stress, etc., are discussed would

be a necessary part of the program. This point was emphasized by Mr. Charles Vetter, Director of ACCEPT — The Alcohol Community Centre for Education, Prevention and Treatment — during the course of a personal interview some months ago. In its analysis of why its referrals felt they had developed a problem with their drinking, the ACCEPT centre had found that a major causative factor seemed to be personality problems such as shyness or inadequacy. Mr. Vetter felt that children of the age nine, ten, onwards could be taught about personality types such as extrovert and introvert, about the concept of self-esteem, and how to cope with adversity.

Richard Volpe, in his article in the Journal of Drug Education 1977 entitled, “Feedback facilitated relaxation training as primary prevention of drug abuse in early adolescence,” states that self-exploration through physical relaxation could be employed as an avenue to much of the information considered important to the potentially productive citizen. He sees that feedback facilitated relaxation training is a “potentially powerful approach to primary prevention.” Further elaboration on his thinking will be given in the concluding chpt. of this report since this would also be of a relevance to the other two areas of smoking and drug use.

ALCOHOL EDUCATION FOR ADULT GROUPS

While alcohol education programs are often thought of as something for school children and youth, it is becoming increasingly obvious that the education of various adult sub-groups should form part of any overall educational strategy. Globetti reports on a survey carried out under the auspices of the National Institute of Mental Health in a community in the

United States in 1970 where three out of four adults said that there was a need to inform the general public about the facts of alcohol. However, as the study showed, there was a lack of consensus about what the goals of such a program should be.²⁹ A key adult group for whom alcohol related education would appear to be necessary are parents. It might be of interest to point out to parents the results of the study, "Children and Alcohol," by Jahoda and Crammond referred to in chpt. 1. Children were shown films of drunken behaviour and, as early as age 6, only 1 in 7 of the children failed to interpret the behaviour correctly as being the outcome of drinking, and there was additional evidence indicating that this learning occurs in the pre-school years. Parents are often unaware of the silent learning that goes on in young children as they assimilate impressions of adult behaviour.

On the basis of their research on drinking habits and attitudes among teenagers in Glasgow, and taking the evidence of other studies into account, Davies and Stacey have drawn up a number of guidelines for parents in relation to their adolescents' drinking.³⁰ Such guidelines might form useful discussion points, for an education program for parents and are given in Appendix 1.

In the short review, "Alcohol and Drug Use Education in England,"³¹ mentioned earlier in chpt. 1., reference was made to the fact that research there had shown that two key sub-groups in the community who had a need for alcohol-related information were:

- a) primary care agents — G.P.'s, social workers, health visitors;³² and,
- b) personnel/welfare officers in work situations.³³

While the information needed here is specifically related to early recognition and management of people with drinking problems rather than to the type of preventive education required for young people and the general public, such specialized education would seem to be part of any overall educational strategy. The Braine report recommended that suitably trained personnel, welfare, medical and safety officers should draw up training and educational programs on problem drinking and its early identification and that Management and Employee representatives should join together to formulate a code of practice which would offer help to employees with drinking problems while undertaking to safeguard their jobs in the meanwhile.

This approach stresses the early recognition of drinking problems rather than the cover-up approach which has been the traditional one in the work situation and, while it would not probably be classified as a primary preventive measure, could be a contribution to a changing attitude towards alcohol use. Some information on the cost to industry in terms of days lost by those with drinking problems is given in the short review mentioned, "Alcohol and Drug Use Education in England," and in the reference sources given therein. Information on the educational needs of primary care agents can be found in the same review and the appropriate reference sources. It is felt therefore that it would be unnecessarily repetitious to elaborate on these two areas here.

NOTE:

Goodstadt and his colleagues at the Addiction Research Foundation in Toronto have just completed a study entitled, "Alcohol Education — A Comparison of Three Alternative Approaches."³⁴ The

report, however, is still in draft form and so cannot yet be cited, but when available it should have some interesting information on the effects of three different approaches to alcohol education on second level students.

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CHAPTER III

SMOKING EDUCATION

Like alcohol education, education in relation to smoking is one which it is long recognized must be tackled on many fronts — young people in schools, parents, health professionals, pregnant women and particular “at risk” groups. As with alcohol education, any smoking education program is mediated by the general cultural attitudes in terms of support, etc., for smoking behaviour and therefore a broad public education program will be a necessary supplement to programs for the more specific target groups.

In relation to education programs in schools, there is much evidence that such programs should have started by the age of ten to twelve before children develop the smoking habit. Davies and Stacey, in their Glasgow study which included some data on smoking habits, found that at 14 years, some 79.3 percent of the boys surveyed had at least some experience of smoking. Bynner reported that by age 15, slightly over 80 percent of his sample of 5,601 boys in 10 secondary schools in England had smoked a cigarette, and that by age 12, 9 percent of the boys were regular smokers.²

A study by Vilstrup on the Danish island of Bornholm found that the habituation period for smoking started at around 13-14 years.³ Foder and Glass, reporting on a study done on 814 school children in the Alhambra School District in Los Angeles, stated that the findings indicated that, while the greatest percentage of increase in smoking practices occurred between eighth and

tenth grade levels, the greatest percentage of heavy smokers occurred at the twelfth grade level. Practically none of the sixth graders indicated that they were smokers.⁴

Dr. Phillipa Poulton, in a study of 331 girls in one grammar school in 1972, drew attention to the need for health education in primary schools because 20 percent of the girls she interviewed admitted to tentative smoking before they were 11 years old. The National Child Development Study in England found that, in a sample of 11,300 16-year olds in 1974, 36 percent were smokers (defined as consuming at least one cigarette per week).⁶ In a survey in a 20 percent random sample of Dublin secondary schools in 1970, O'Rourke, Wilson-Davis and Gough found that 25 percent of boys in the sample were regular smokers by 12 years and 3 percent of the girls were regular smokers by the same age.⁷ While these studies are not strictly comparable, since the definition of smoker and regular smoker may differ from one study to another, they all make the point that, if an education program is to be preventive it should be underway by the age of ten to twelve years.

MOTIVATING INFLUENCES IN SMOKING AMONG YOUNG BOYS

A number of studies have also tried to pinpoint the motivating factors in children's smoking and also the image of the smoker, both of which could give useful information on points which an education program might consider. The Department of Education and Science, London, in its Health Education in Schools (1977), states that Bynner found that—

“the main attraction of smoking to schoolboys was the toughness that it represents. They therefore have a major incentive for continuing to smoke, and non-smokers

similarly have a strong incentive for starting. Smokers are also united with their friends by the value they place on precocity. This gives them an additional incentive to continue smoking because it would mean identifying with non-smokers, a group who appear very immature to them, and who do not value success in attracting girls as they do. The one unattractive aspect of smoking for these boys is its association with lack of educational success.”-

Bynner concludes that —

“The main pressure on a boy to smoke comes from his need to conform with, and gain status in the eyes of, his groups of friends. This influence is countered by his parents’ disapproval of smoking and by the health risks in smoking. Anti-smoking strategy needs to be directed at devaluing smoking as a means of achieving status in the peer group, at strengthening home restraints and at increasing the effectiveness of health education.”⁹

Poulton, in her study mentioned earlier among grammar school girls, found that the girls’ ideas of the stereotype of a girl who smoked were of being “with it” and popular, generally a “socialite.” Non-smokers, by contrast, were seen to be sensible, “grown up” in a different way and harder working. Poulton, however, cautions against extrapolating too widely from a sample of 331, where detailed analysis was based on the responses of 105 girls, of whom only 18 smoked.

Bewley and Bland, in their study in 1971, of 4,804 children aged between 10 and 12½ years, in the final year of primary school or in the first year of secondary school in Kent, found that —

“the main reason for smoking in the children’s view was to show off (79 percent). None of the other reasons suggested was agreed to by more than half the children and curiosity was rarely mentioned. The children did not seem to enjoy smoking. Few of them agreed that smoking was enjoyable and few thought children smoked because they liked it. They did not think smoking was a desirable activity for children, and they also thought parents should discourage their children from taking it up. Most of the children in each group thought smoking was harmful to health, and they also thought that health worries were a deterrent. However, these views were held by fewer smokers than non-smokers .”¹¹

The negative attitude of both boys and girls to smoking was also found in a previous study of primary school boys (Bewley et al. 1974).¹² This does not conform with the findings of Bynner (1969) who reported that most of the smokers in his sample enjoyed smoking. This could be an age effect as the boys in Bynner's sample were older. The findings of Bland et al. (1975) suggest that boys between 10 and 12i do not identify themselves with smokers, despite their own smoking habits, and this may account for some of the discrepancies between attitudes and behaviour.¹³

Similar associations of toughness and masculinity with smoking were found by McKennell.¹⁴ Both Bewley and Bland and McKennell found that the academic achievement of smokers was lower than that of non-smokers, both as seen by themselves and by their head teachers.¹⁵

PARENTAL AND SIBLING INFLUENCE

Parental and sibling influence would appear to be an important factor associated with smoking by younger children. Bewley and Bland found that —

“for boys there was no relationship between having brothers and smoking, but there was a strong relationship between having brothers who smoked and the boys' own smoking. Forty-five percent of boys who were heavy smokers had brothers who smoked, compared with 7 percent of non-smokers. More smokers than non-smokers had brothers who smoked, both among boys whose fathers were non-smokers and boys whose fathers smoked. However, only among boys whose fathers smoked were there many smoking brothers. Although the brother appears to be an important influence, he is only likely to be so if the father smokes. For the boys, smoking by sisters was significantly associated with their own smoking, but 54 percent of boys with a sister who smoked also had a brother v/ho smoked, compared with 16 percent of boys with no sisters who smoked. For boys who had no brothers who smoked, there was no relationship

between the boy's own smoking and that of their sisters. For the girls, there was a significant association between their own and their sisters' smoking. There were insufficient girls in the study to enable the separate effect of mothers' and sisters' smoking to be investigated."¹⁶

Detailed tables on these associations can be found in the article itself.

The National Child Development Study among 16 year olds also gathered data on parental smoking.—

“Information about parents' frequency of smoking was obtained during the parental interview and recorded as number per day. These were matched with those of their children to see if any association could be discerned. This was in fact the case for both mothers and fathers who smoked and the apparent influence extended to both boys and girls. Moreover, there was some suggestion in the data of the importance of sex-role modelling, boys' smoking have closer association with fathers' smoking than with mothers' and vice versa for girls. Of course, the influence of other factors such as parents' permissiveness, general attitudes to smoking and the availability of cigarettes in the home is not known, although they are probably important factors.”¹⁷

Similarly, Lawrence and Patricia Green, in a review of a number of studies, state, —

“We find that the most powerful predictors, if not determinants of teenage cigarette smoking are the smoking patterns of significant others. At the earlier ages/the most important of these significant others are parents and siblings.”¹⁸

Such findings have implications for parent education programs. As Salber has stated —

“The demonstration of the extent to which the fate of their children lies in adult hands may convince adults to take preventive action they might not be willing to take for their own benefit.”¹⁹

PEER GROUP INFLUENCE

Peer group influence is another important factor in children smoking although this appears to become more important as children get older. To quote Green and Green again —

“Peer influence increases at higher grade levels. At the college level, parental influence is minimal but peer influence persists.”²⁰

Green and Green go on to quote a study by Lanese, Banks and Keller which provides data on 5,149 teenage students, showing that the most powerful predictor of smoking behaviour is the number of pals who smoke. Whether the best friend smokes is the second most significant predictor of smoking.²¹

Similarly, Bewley and Bland, in their study mentioned previously, found that 76 percent of children who were smokers reported that most or some of their school friends smoked, compared with 36 percent of non-smokers. The smokers reported that more of their friends smoked and were more certain about their friends’ smoking than the non-smokers. More boys than girls said their friends smoked. Smoking reported for friends outside school showed a similar pattern.²²

It would seem that the association between peer group attitudes and behaviour persists beyond secondary school. Baric, McArthur and Fisher, in their paper, “Norms, Attitudes and Smoking Behaviour Amongst Manchester Students,” found that quite a number of the students in the sample had a particular individual with whom they felt they had a close emotional relationship. This study showed that the students tended to have a “closest individual” whose norms related to smoking were either consistent with their smoking behaviour and attitudes to smoking, or who had an absence of any strong feelings about the smoking habit. Moreover, a large number of those students who felt that their closest individual had norms concerning smoking actually perceived the transmission of these norms, in that they felt that their closest individual had tried to influence their smoking pattern.

In addition to this dyadic type of relationship, students tended to belong to larger friendship groups, which provide another source of norms concerning smoking. Once again, the students' smoking behaviour and attitudes to smoking were in accordance with what they perceived the norms to be in their group of friends. Those students who were smokers tended to spend a larger amount of their free time with these friends, many of whom also smoked. Once again, about half of the students who felt the presence of norms relating to smoking in their group of friends recognized the influence of these norms on their own smoking pattern.²⁴

From the foregoing it would appear that a number of points should be incorporated in a smoking education program:

- a) that a preventive program should be under way by the time children are 10 to 12;
- b) that there is need to dissociate the image of smoking from masculinity, attractiveness and toughness and to improve the image of the non-smoker.
- c) that an educational program for children must be complemented by one for adults, if it is to have a hope of success.

SMOKING EDUCATION PROGRAMS FOR YOUNG PEOPLE

Next, one can take a look at some youth education programs that have actually been developed. One of the few programs with a favourable behavioural outcome is the one reported by Biener on apprentices in Switzerland and the detail of which has already been given on page 57, chpt. II of this report. The outcome, in terms of smoking behaviour as given by Biener, was as follows —

“Twenty-four of the 60 test group apprentices smoked at the beginning and 25 at the end of the 4-year study. In the control group, 28 smoked at the beginning of the study and 47 at the end. In the control group, 19 of the initial 32 smokers started smoking while, among the 36 initial non-smokers in the test group, only one became a smoker. One member of the test group who smoked at the beginning of the study no longer smoked at the end of the study. Significantly, more members of the control group became smokers during the study than did members of the test group.

We failed to induce the majority of smokers to quit smoking during the study period covering the years age 16 to age 19. Among the test group only two quit smoking- among the control group, none quit.

We conclude that ‘experimental’ smoking of cigarettes at age 16 often leads to habitual smoking at age 19. If one wishes to influence the smoking habits of adolescents by health education, one should start at age 14 or, even better, at age 12. For educational reasons we refrained from trying to forbid smoking altogether, in order to avoid a ‘spite reaction.’ Our success with the test group reflected the fact that there was hardly any conversion from non-smoker to smoker and that among smokers the daily consumption of cigarettes remained significantly lower in the control group.”²⁵

Before discussing the Berkeley “Health Education Curriculum Project,” it might be useful to give information on some lesser known projects. In 1973-74, children and adults in the Danish island of Bornholm with 47,000 inhabitants were supplied with a variety of materials, mainly prepared by an advertising agency through the public education system. The campaign was supported by almost all teachers and public health employees as well as the local newspaper and the radio station.

Most of the campaign material was designed to fit wide age spans. There were bright colours and action for the very young and hard facts for those who were old enough to work with them. In all age groups emphasis was put on tobacco being harmful, having a steady, cumulative effect rather than involving a risk of heart disease in some remote future.

The campaign directed at young children was concentrated around the figure of a clown who regained his health and popularity when he stopped smoking. Heart and lung aspects were combined in his red heart turning smoky black when he lifted his arm to smoke.

A series of color slides with a tape-recorded story by a 12-year-old child gave quite a few facts in an ironical way. A phonograph record was produced for free distribution to schools; a new song in contemporary style was recorded in full on one side and the accompaniment alone on the other. The text was printed on the cover so that children could sing it.

The older children got a fact book based on contributions from local teachers.

A four-page tabloid newspaper, the "Gasp" was distributed four times during the campaign, increasingly dominated by reader contributions. Each contributor was given a 'no smoking' T-shirt. It was hoped that this T-shirt might serve as a symbol of group identity for non-smokers. Anticipated demand was 750 shirts but 2,750 were distributed to children.

The material was distributed by the country education material centre. Teacher co-operation was secured through personal contacts with authorities, organizational board members and individual teachers.

A four-page folder, distributed to all homes, did not ask parents to stop smoking, but explained the project and advised how adults might support the campaign — or at least not interfere with it.

The testing was based on a simple true-or-false test and, among very young children, on a simple association test using

pictures. Both tests centred around attitudes rather than behaviour. A key question for 2nd to 7th years was:

“Try to think of yourself when you have grown up, when you are twenty years old. Do you think you will be a smoker at that time?”

In the youngest group (9-10 years) 27 percent expected to be non-smokers before the project. This percentage rose to 36-37 percent after 5 and 7 months, but still more than 50 percent had no clear expectation.

In the 11-12 year old group, an immediate improvement was seen in 20-30 percent of the children, measured by expectation of own smoking when twenty years old. Measured a few months later — the improvement has declined to 10-15 percent so that 40 percent instead of 30 percent expect to be non-smokers and 15 percent instead of 20 percent to be smokers.

In the 2nd and 3rd years (9-10 years) an increased number accepted the message that even small quantities of cigarettes are harmful. No improvement was seen in the understanding of habituation. Details of actual percentage changes on various questions are given in the paper itself.²⁶

The author of the article, Vilstrup, drew a number of conclusions from the project.

1) Information on tobacco has a more marked effect on children under 11 years than on older children.

2) School authorities incorrectly assume that only older children can handle tobacco information intellectually. Given the right educational material, younger children can be satisfactorily educated on the subject.

3) The fact that tobacco is harmful is no news, even to very young children. What they find more interesting is the

way in which smoking is harmful. Immediate effects of smoking are more arresting than the prospect of more serious effects in a remote future.

4) With young children — the most promising target group — teachers enjoy a favourable type of authority which they are willing to lend to a campaign, provided they personally accept the theme. ,

5) The philosophy of a once-for-all informational vaccination of young children is unrealistic. A prolonged effort is necessary if anti-smoking motivation is to remain viable and strong when the powerful, social pro-smoking forces make themselves felt.

Another project which emphasized the short term effects of smoking is one reported by Fodor and Glass.²⁸ During the first two years of the project, a total of 814 subjects underwent a series of clinical tests and completed two types of questionnaires. Of these, roughly half were smokers and the other half non-smokers. The clinical tests were concerned with the examination of selected physiological factors such as expired air, heart action at rest, blood chemistry and work performance. The significant findings were incorporated into the educational program that evolved during the latter two years of the project. Experimental groups consisted of 6th, 8th and 10th grade students who would receive an instructional program developed by selected teachers and project staff.

Control groups consisted in selected schools who would receive the conventional instructional program in use in the Alhambra School District of Los Angeles where the project was taking place.

The procedures for planning the educational program and writing the 6th grade guide were developed through co-operative efforts of the Alhambra School District and the project staff. Nine 6th grade teachers representing selected elementary schools were actively involved in developing an educational program and writing "A Teacher's Guide — Cigarette Smoking and Health — Grade Six." The curriculum development process incorporated several in-service workshop sessions. Special consultants:

- 1) provided teachers with current information on smoking and health, including findings on the immediate effects from Phase I of the Smoking Research Project;
- 2) helped teachers develop skills for identifying concepts and developing measurable objectives;
- 3) worked with teachers in preparing the guide during writing sessions.

The suggested learning opportunities were designed to provide a variety of activities for the teaching-learning situation. All learning opportunities enabled the student to become actively involved. Learning opportunities were also provided which enabled the teacher to correlate smoking and health with other subject areas.

Supplemental information and resources for the teacher were provided. These included demonstrations and experiments, overhead transparency masters, selected content on cigarette smoking, lists of references on smoking and health with separate lists for students, and a glossary of selected terms as an additional aid for the teacher.

The completed smoking and health unit was presented in a 6-day period. In addition, supplemental smoking and health instruction took place throughout the semester in other subject areas.

Analysis of pre and post-test results indicated that the sixth grade students receiving the developed curriculum scored higher on the knowledge post-test and post-post-test than their counterparts in the control group. An educational program was also developed for the eighth grade but, because the contract ended, the program was not implemented.

An education program known as the Berkeley project has been tried widely in the U.S. and has been introduced on a pilot basis in England since 1975. The project known otherwise as the Health Education Curriculum Project (HECP) is a health education scheme, currently intended for 9 to 12 year olds which grew out of developments in the Berkeley School District, California, in 1962. It now receives federal support from the U.S. Bureau of Health Education, U.S. Department of Health, Education and Welfare, and has been taken up by some 200 school districts throughout the U.S.A.

The materials consist of three units, each intended to be taught for about an hour a day for 8-10 weeks in the school year. The three units are:

- a) lungs and respiratory system intended for those of about 10 years;
- b) heart and circulation for those about 11; and
- c) brain and nervous system for those about 12 years. The overall aim is to inculcate the idea of the body as a beautiful system, so that individuals will respect it and will

be less tempted to interfere with its workings in later life, e.g., by smoking, excessive drinking, drug-taking, etc.

The methods used include the intensive use of resources such as tapes, films, slides, etc., for both individual and class study. Dissection of animal lungs, hearts, etc., and the use of the microscope are also included.

An interdisciplinary approach is encouraged with links to art, music, maths., P.E., and basic language skills. In addition to making their own models and drawings, the children write poems and essays and take part in panel games.

The involvement of parents, voluntary agencies (e.g., the Red Cross), doctors and the community generally is also encouraged with much reliance on outside speakers and an absence of “preaching” by the teacher.

The course is intended to be taught by non-specialist teachers rather than specialist biologists and the U.S. organizers therefore insist that all teachers participate in a two-week course for each unit.

The respiratory and lung unit is organized in the following phases.

Introductory Phase. The vital and immediate need for air, all living things need air, how breath can save a life.

Phase I. Awareness of the respiratory system, the 9 body systems, purpose of main organs, relationship to other systems, effects of drugs and alcohol.

Phase II. Appreciation of lungs, composition of the air, breathing mechanism, harmful effects of some things breathed in.

Phase III. Structure and function of the respiratory system.

Phase IV. Diseases of the respiratory system, prevalent diseases, causes, effects and prevention.

Phase V and Culmination. Prevention of diseases of the respiratory system and care of the body.

The materials produced by the American project team consisted mainly of teacher guides to the sequence of lessons to be followed, lists of recommended films, film strips, models, books, experiments, etc., worksheets or suggestions for their construction. Wilcox, in his evaluation report on the trial of the project in Sheffield, England, states that the project team has produced very little original material for direct use by pupils. All of the recommended visual aids, etc., are already available on the commercial market; none has been produced especially for this unit.

The project was tried on a pilot basis in two Sheffield schools, Norton Junior and Infant and Nether Green Middle. Pupils attending the schools were from middle class and stable working class families. The respiratory unit was studied on three mornings a week over a six-week period in the Nether Green School. At Norton, the unit was concentrated into a shorter period of time (3½ weeks) by taking the unit every morning. Detailed information on the method of testing, results and suggestions for future use is given in reports by the Sheffield City Education Department.^{29,30,31,32} One of these, "Evaluation Report No. 2 by Wilcox," is included in Appendix A of this report, but a brief summary of the main effects of the project as given by Wilcox will be given here.

a) Little of the content was familiar to pupils before the unit (pre-test mean scores of 19 percent and 27 percent respectively for Norton and Nether Green). Post-test scores of 60 percent and 63 percent represent a highly statistically significant and substantial learning gain which it is reasonable to attribute to the effect of the unit.

b) Although both boys and girls had an initial high awareness of the effects of cigarette smoking on health, this was further increased after completion of the unit.

c) There was some indication of a shift of attitudes concerning smoking and smoking behaviour in the desired direction. Substantial changes in attitudes or smoking behaviour, either immediate or long-term, would not be claimed, on the basis of a single unit of the total project, by the American project organizers.

d) For both samples the number of children who smoke or have smoked is not a problem in these schools. Given this, the presentation of the unit may be a wise preventive measure for the future.³³

Raymond Sine³⁴ reports on a project to evaluate the comparative effect of a value with a factual approach on the drug abuse and smoking behaviour of college students. These students were older than those mentioned in any of the previous projects and were in fact undergraduates at a large urban university in Massachusetts who registered for a Foundations of Health Education course in the 1973-74 academic year. Fifty subjects registered for the course of which 47 were in the Department of Human Movement and Health Education and 3 were from another department in the university. The subjects were randomly

assigned to two groups during the first class meeting. The factual approach group (FAT) was the control group and the values approach treatment group (VAT) was the experimental group. Each treatment group consisted of 20 males and 5 females.

Both treatment groups received a unit of instruction of 16 classroom hours over a four-week period with identical textbook and library reading assignments and written take-home examinations. The classes met twice weekly for two hours per meeting.

The FAT group was taught by the lecture discussion method with the emphasis on mastery of the factual information as it related to the text-book and library reading assignments.

The VAT group was taught by a specialist in humanistic education who regularly conducts values clarification programs throughout the Northeastern United States. The group received 18 values clarifying strategies during class time, with minimal emphasis on factual information.

The self-reported behaviour responses between pre-test, post-test and retention tests indicated little or no change in the drug abuse and smoking behaviour of the subjects for both approach treatments. Analysis indicated that neither of the approach treatments were effective in influencing the health behaviour of the subjects involved in the study, nor were there differences between the behaviours of the subjects in the study.

Eva Lynn Thompson³⁵, in an article in the American Journal of Public Health in 1978, gives a review of smoking education programs from 1960 - 1976. She refers to a study by Crawford which compared the effectiveness of three methods of teaching about smoking and health. In the committed teacher approach,

the teacher let the students know she felt smoking was undesirable. In the neutral approach, she tried to conceal her feelings about smoking. In the incidental approach, the effects of smoking were related to other topics in five short incidents during the term. In terms of increased knowledge, the committed approach was the most successful, followed by the neutral approach. The committed approach was the only one to consistently alter opinions in a healthy way. None of the methods were correlated with behaviour change.

Thompson also reports on a study by Watson³⁷ in which four methods of teaching were assessed for their ability to change behaviour, attitudes and knowledge. The four were a didactic approach, group discussion, psychological persuasion, and a combination of all three. It was found that where a method scored best in one area it was less successful in others. The didactic approach was most successful in changing behaviour. The combination approach was best at improving knowledge. Attitudes were most affected by psychological persuasion. Group discussion was a close second in all three areas and was considered the most promising method.

Thompson also reports on a study by Irwin³⁸ which investigated the effects of three teaching methods — teacher led, peer led, and individual study — on the knowledge and attitudes of seventh grade students. The individual study method was most effective and the peer led least effective. However, since class size varied from 19 to 71 and was not controlled, there may well have been interaction between class size and method. This study also indicated that the regular classroom teachers were more effective than visiting teachers who were specialists in smoking and health.

Thompson also reports on two studies which compared the effectiveness of three approaches to anti-smoking education — presenting both sides of the issue, encouraging students to take an adult role, and presenting material in an authoritarian manner. Horn³⁹ found the two-sided message more effective while the other two approaches resulted in no more behaviour change than occurred in the control group. Cresswell⁴⁰ et al., however, found the adult role-taking method most effective and the two-sided approach least effective.

A number of studies have used models or dolls to illustrate the effects on smoking on the lungs to young children. One such study in San Diego is reported by Gritz.⁴¹ In Sweden, improvised role-play and other forms of dramatic activity are recommended as a method among others of involving the pupils and facilitating their insight into different ways of reasoning and acting regarding smoking.⁴² Such exercises would involve pupils playing the part of smokers, non-smokers, parents of smokers, etc., where they would act out spontaneously situations where a non-smoker comes into a group and is persuaded by the others to smoke, where a smoker comes into a group of non-smokers and is persuaded not to smoke, etc. Nordgren,⁴³ in an article on information on smoking in Swedish schools (1979), mentions experiments in which senior level pupils who have been given a thorough training in the problem of smoking act as tutors and discussion leaders for pupils at the middle level, thus supplementing the formal teaching. Nordgren also gives some statistics which have been gathered by the National Board of Education in Sweden since 1971 which shows that, from 1971 to 1978, in comprehensive schools, the percentage of 13 year old boys smoking has dropped from 14 to

10; for girls the corresponding figures are 16 and 10. For 16 year old boys the drop has been from 41 to 25 percent and for girls from 47 to 38 percent.⁴⁴ Because Nordgren's article gives an overview of the general approach to smoking education in schools in Sweden, it is given in full in Appendix B.

In assessing all these reports of projects, it is important to bear in mind that they are not strictly comparable since they refer to different age groups, use different testing methods, and had different numbers in their samples. Nevertheless, they can give some indication of points that could be usefully borne in mind in devising the smoking education aspect of a health education project. A number of these would be:

- a) as mentioned earlier, an early start, with a program underway by age 10 to 12;
- b) stressing the short-term as well as the long-term effects;
- c) an emphasis in the early years on knowledge relating to the physiology of the body, with the effects of smoking as one illustration among others of factors that interfere with the workings of the system;
- d) involving children in small groups doing projects illustrating the points being dealt with in class;
- e) creating a positive image of the non-smoker in children's minds;
- f) using models, dolls, etc., to convey information on the effects of smoking to very young children;
- g) making parents aware of the findings of studies that show an association between parents' smoking habits and children's smoking habits.

h) making older children aware of peer group pressure — this could be done in the general social/psychological type of program mentioned in the chpt. on alcohol education, where children are made aware of the social pressures in general to which they will be subjected as they are growing up — an aspect of such a course would be the development of coping and decision making skills to deal with such influences.

SOME ADULT TARGET GROUPS

Apart from programs for young people, many specific groups are seen as important targets of smoking education programs. One of the most recent of these specific target groups is pregnant women. Tones, in his book, “Effectiveness and Efficiency of Health Education” (1977), reports such a campaign carried out by the Health Education Council in England in 1974 and 1975.⁴⁵ The study provides a measure of knowledge, attitude and behaviour change as a result of a health education program.

The main target group was pregnant women aged between 18 and 34 years. Its aims were:

- a) to reduce the incidence of smoking during pregnancy; and,
- b) to dramatize the dangers of smoking to others than those pregnant — especially to other women.

Materials evaluated were:

- a) T.V. commercials;
- b) press advertisements.

These materials were selected after “concept testing” on a sample of 192 women of whom 50 percent were pregnant, in York and London

Evaluation Measures. These were:

- a) awareness of campaign;
- b) evidence of change in knowledge and attitudes;
- c) evidence of a change in smoking behaviour.

Evaluation Technique. This involved a street interview with a quota sample of 500 women in five regional centres in England and Wales. The quotas were interviewed before and after the campaign and the two sample groups were matched for age, sex and geographical area.

Results.

a) Knowledge about smoking in general. There was no change in knowledge, but the level of knowledge about the dangers of smoking was initially high — between 76 and 80 percent. It is interesting and predictable to note differences in levels of knowledge between sub-groups. S.E.S. ABC1 demonstrated a higher level of knowledge than C2DE and, in accordance with classical dissonance theory, smokers demonstrated less knowledge/acceptance of facts than non-smokers (66 percent as against 86 percent).

b) Awareness of Campaign. The program was clearly successful in terms of attracting attention — nine out of ten of the target group demonstrated awareness of the campaign.

c) Knowledge and Attitudes about Smoking and Pregnancy. It is difficult to separate knowledge and attitude here, but it is clear that attitude change occurred. In terms of accepting the value of giving up smoking during the relevant period of pregnancy: in terms of the unfairness of women smoking when they could damage their child; and in terms of acceptancy that smoking could seriously damage the baby, there were noticeable

changes after the campaign. These shifts were of the order of 10 percent.

d) Behaviour Change. Of special interest was an apparent change in smoking behaviour which was restricted only to pregnant women. The change was of the order of 10 percent. Whereas 43 percent of non-pregnant women were smoking before the campaign and 44 percent were smoking afterwards, 39 percent of the pregnant women were smoking before and only 29 percent afterwards. The difference between the 43 percent of non-pregnant and 39 percent of pregnant smokers prior to the campaign presumably illustrates the spontaneous tendency to stop smoking when pregnant

A report of the campaign in 1975 is interesting in that on this occasion no change resulted. Of pregnant women, 33 percent were smoking before and after the campaign. The rate of smoking was nonetheless lower than the pre-campaign figures for 1974 and still lower than for the non-pregnant women. Dissonance increased from 65 percent to 78 percent in pregnant smokers and from 61 percent to 68 percent in non-pregnant smokers.

This study, according to Tones, demonstrates how a mass program can yield positive effects on knowledge, attitudes and behaviour, but only to a certain level of saturation. Thereafter, other techniques should be employed — in this case to further change behaviour and provide support of an interpersonal nature.

In the North Karelia project to be detailed shortly in this chpt., the percentage of females who stopped smoking during pregnancy of all those who smoked at the beginning of pregnancy increased from 17 to 32 between 1972 and 1975.⁴⁶

NORTH KARELIA PROJECT

Other targets for smoking education are various risk groups. Particular success appears to have been achieved with a hypertensive group in the North Karelia Project in Finland.⁴⁷ The smoking education program here was a sub-program of a wider control program for cardiovascular disease in the county of North Karelia with a population of 180,000 inhabitants. One of the objectives was to reduce high blood pressure among the entire population and keep the hypertensives under adequate treatment and follow-up. The aim was also to reduce the risk factor among those who had high blood pressure. This implied that special efforts were made at reducing smoking among hypertensives (HTs).

The activities of the HT program consisted of five years intensified community intervention integrated into the existing health-care system. A major tool of the HT program was an HT register which consisted of systematic registration and follow-up of registration. During the follow-ups, hypertensives were given health education by local health personnel to include a high serum cholesterol level and smoking. Smoking was recorded at registration and at each subsequent follow-up.⁴⁸

During the five-year intervention about 17,000 hypertensives were registered. This was 9.7 percent of the total population of North Karelia; 37 percent of those registered were males; 35 percent of males and 6 percent of females were smokers at the initial examination. Smoking decreased continuously during the follow-up so that, at the 4th annual follow-up, only 21 percent of males and 2 percent of females are recorded as smokers.

While the program aimed specifically at hypertensives, it was part of a general anti-smoking program aimed at the general public. A key factor in the overall program was the use of key health and welfare personnel in the community. Training was given to such personnel at the county level and then at local level, and was aimed particularly at health officials, G.P.s, Public Health nurses, teachers, social workers, officials in voluntary organizations, community leaders, lay assistants, etc. This training program course included the general background and aims of the anti-smoking program and the practical tasks that each worker should carry out in the course of duties.

Progress and new tasks in the anti-smoking program were communicated to key personnel groups at annual general meetings. Written material on new developments was distributed to local health centres to reinforce the local refresher courses.

At all health care facilities, inquiries about smoking behaviour were made as systematically as possible and the information recorded in the person's medical file. This was followed by a discussion about the health consequences of smoking and various means of cessation. Finally, advice was offered about stopping smoking and written material offered. Smoking behaviour is checked again at subsequent visits. More specific therapeutic measures were developed to support routine anti-smoking measures. Smoking cessation group activities were organized on the basis of a specific model developed by the project. Such cessation groups were usually led by a public health nurse or a teacher. The project also tried to encourage a non-smoking environment.⁴⁹

During the first year of the project, 1972, the percentage of current male smokers in the general population, age group

25-59, fell from 54 to 44. After this it remained practically the same and was 43 in 1976 (latest date for which data were available at the time of writing). The reduction was even greater for the age group 45-59 in the male population. The proportion of female smokers in the community remained the same, at approximately 6 percent.

While much use was made in the program of articles in local newspapers, local radio programs, posters, leaflets, and various types of health education lectures, the basis of the program was personal and repeated contact with health personnel.⁵¹

ROLE OF HEALTH PERSONNEL

A number of studies have made reference to the importance of health personnel in persuading people not to start smoking or in persuading them to stop. Raw,⁵² in a study of 40 patients attending a chest clinic, found that advice from the chest physician had a significant effect in getting people to reduce smoking over three months and concluded that —

“the results suggested that the advice-giving role of the doctor could be used more effectively than it currently is in preventive medicine.”⁵³

Similarly, Kelson, Pulella and Otterland⁵⁴ refer to a 55 study of American teenagers by Lieberman Associates,⁵⁵ where 72 percent of non-smokers said that physicians were the one group that could persuade them not to start smoking: of the smokers, 42 percent said that advice from a physician would persuade them to stop. In personal communication in April 1979, Dr. David St. George of the English Health Education Council said that a study was just commencing in England on the effects of different strategies of education by Thoracic Physicians on the smoking behaviour of their patients.

MASS MEDIA CAMPAIGNS

Most anti-smoking education programs have a mass media advertising component aimed at a wider audience than can be reached by the more specific programs. Eiser et al.⁵⁶, in an article in the British Journal of Addiction (1978) entitled, "Can Television Influence Smoking," reports on the results of a survey which tested the impact of Thames Television's "This Week" programs, "Dying for a Fag" and "Licence to Kill." The samples in the three polls used to assess the effects were representative of the population of Great Britain, aged 16 years and over, stratified by region and town size, and covering over 100 locations. The proportion of smokers who reported trying to stop was significantly higher among those who remembered seeing either program (59 percent) than among those who remembered seeing neither (32 percent), but the success rate among those who tried was not significantly higher for viewers (64 percent) than non-viewers (59 percent).⁵⁷ If nothing else, the study showed that anti-smoking T.V. programs on their own were not sufficient to make people stop smoking.

The Health Education Council carried out an Adolescent Anti-smoking Campaign⁵⁸ in early 1976, and again in early 1978. The 1978 campaign was on a more modest scale than the 1976 one and concerned cinema advertising only. The aims of the surveys carried out were, firstly, to evaluate awareness of the campaign and, secondly, to determine any indication of change in attitudes to smoking among 12-20 year olds as a result of the campaign.⁵⁹

The data in the survey was collected by means of in-home personal interviews with a structured quota sample of 12-20 year olds.

After the 1978 cinema campaign, when a still from the cinema commercial was shown, 59 percent claimed to remember seeing the commercial, compared with 45 percent in 1976. Although there was no real difference between demographic groups in incidence of cinema going, the commercial was more likely to have been seen by older boys and girls, and by current smokers.⁶⁰

When presented with a number of attitude statements about smoking, respondent's comments showed certain interesting differences pre- and post-campaign and from the earlier survey:

— Agreement with the statements linking smoking with poor health was more marked in 1978 than in 1976.⁶¹ 84 percent of smokers and 95 percent of non-smokers agreed with this in 1976 while 90 percent of smokers and 98 percent of non-smokers agreed in 1978. However, there was not much difference between those who had seen the cinema advertisement in 1978 and those who had not; so the increased agreement could not be attributed to that.⁶²

— There was less of an attitude shift in 1978 for the statement, "I don't like boys/girls who smoke," but a greater shift, especially among older respondents and smokers, towards "Smoking is a dirty habit."

— Disagreement with the statement, "Smoking is very enjoyable," became very marked among non-smokers. There was no real difference in smoking behaviour either from 1976 to 1978 or pre- and post-campaign 1978.⁶³

As mentioned earlier, the fact that no behaviour change occurs in the period immediately following a campaign does not mean that such a campaign has been entirely ineffectual. A number of such campaigns, over a period of years, provides an

input into the social environment that smoking is dirty, dangerous, not glamorous, etc., and over a period of time may contribute to the general idea of the social inacceptability of smoking. Green,⁶⁴ in his article, "Psychological Factors in Smoking," has identified four major motivations for wanting to quit smoking: health, to set an example to others, aesthetics and mastery over oneself. Mass media campaigns could perhaps usually keep these themes in mind. As Gritz has said:

"The underlying principle of any approach to smoking prevention is a change in society's attitude towards cigarettes and smoking from one of enjoyment, tolerance and acceptance to displeasure, disapproval and rejection."⁶⁵

From this point of view, a mass media campaign of advertisements, documentaries, newspaper articles, etc., would be one component in an overall strategy that would have specific programs for various target groups.

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CHAPTER IV

DRUG EDUCATION

As mentioned in chpt. 2, the distinction between smoking, alcohol and drug use education was made for the purpose of organization of material rather than to imply that alcohol or nicotine were not viewed as drugs. It is, however, important to bear in mind that the concept of drug education does not refer only to illegal drugs, even though, for the purposes of development of particular parts of a curriculum, distinctions may be made on such a basis. As Cowley, Director of the Teachers Advisory Council on Drug Education (TACADE) in England has stated —

“Drug education, therefore, cannot be about a small selection of drugs, such as alcohol or illicit drugs, but needs to be about the whole perspective of drugs in society. In other words, in educating about drugs we will include over-the-counter drugs, drugs prescribed by the doctor, socially accepted drugs (tobacco and alcohol) and illicit drugs ... We are all in a drug using society; it’s just that some of us choose different styles of drug use.”¹

In this chpt., concern is with what are commonly regarded as illegal drugs.

The question of education about illegal drug use is bedeviled by a number of problems not as prominent in the case of alcohol or smoking education. Availability, access to, and use of illegal drugs varies more from one subcultural group to another within a particular society, and so the attitudes to drug use education and the question of the precise goals of such education are likely to arouse more controversy than is the case with alcohol or smoking education. Similarly, the findings in relation to the impact of educational effort in one country may

not be extrapolated as easily to another. In addition, the fear that education about drug use may in fact stimulate use among those who would not have otherwise considered it can lead to a questioning of the whole idea of drug use education. And, lastly, the attribution of consciousness-altering and/or creativity enhancement has not been made as vociferously or as articulately for alcohol or smoking, at least in recent times, as it has been made for some of the illegal drugs.

Many different models of drug education have been tried, particularly in the U.S.A., but also in England and Holland, and while few, if any, of these could be shown to be effective in reducing demand, many have shown changes in knowledge level and some few have shown changes in attitude, either towards drug abusers, towards personal intention to use, or towards legal controls.

In looking at the different models of drug use education, it is important to bear in mind that they are not strictly comparable with each other, in terms of results, since they have been given to groups differing in numbers, and in many cases adequate control groups have not been used. Similarly, there is by no means universal agreement on what the goals of drug education should be, but this point will be referred to later in the chpt. Here is proposed to describe a number of experiments in the U.S./Canada, England and Holland. These descriptions are based largely on the work of Swisher, Goodstadt,³ Dorn,^{4,5} and DeHaes and Schuurman⁶ who have extensively reviewed studies in their own countries and elsewhere.

In his article, "Myths and Methodology in Drug Education: A Critical Review of Research Evidence," Goodstadt describes a

number of American studies, among them an evaluation of a values-oriented drug abuse education program in Coronado School District.⁷ Features of it were:

a) an education program that included both cognitive and affective content, the latter concentrating on “values” training, especially the consideration of behaviour within a value-oriented decision-making context;

b) a program whose focus extended beyond consideration of drug-related behaviour to other negatively-valued (e.g, cheating) and positively-valued (e.g., playing games, working) alternatives.

c) a program that extended from grade four through” grade twelve;

d) a concern with experimental design, including the establishment of control (non-program) groups, longitudinal testing, and an attempt to develop reliable instruments (especially a Risk Taking Attitude Questionnaire).

A number of problems arose in relation to the evaluation of the study.

a) There was no way to evaluate independently the cognitive and affective aspects of the program.

b) Due to California law, it was not possible to identify the students, so that post-program testing suffered from un-specifiable drop-out rates, as well as the inclusion of some students who had not been previously tested.

c) The adequacy of the comparison groups for the senior high school subjects (grade 12) was open to doubt.

d) There were no experimental subjects for the junior high school grades seven and eight.

e) No pre-program measures were obtained for the grade six

subjects, thus preventing a test for the pre-program comparability of the grade six control and experimental groups.

The design problems outlined above left the lower grades, four and five, as the best test of program effectiveness since adequate pre- and post-program measures were available from both experimental and control groups obtained from classes with different teachers. The data of the other groups gave useful information also. Approximately 850 students were included in the post-program phase of the study.

Because of the number of variables involved, the results were quite complex. However, the author of the study, Carney,⁷ summarized the most significant findings —

“In the absence of the drug abuse program groups from grades 7 through 12 tend to move in attitudes towards a ‘drug culture’ pattern and to increase their use of alcohol and marijuana. The drug abuse program either slows or reverses this undesirable drift in many cases or may serve to reinforce the teenager’s decision not to be involved with dangerous drugs. The largest effects were found for males at the earlier ages, and for perception of gain from behaviours such as working hard or playing games. In addition, more desirable behaviours such as working hard and playing games tend to be done more frequently by experimental classes and to be seen as having less risk and more gain than drug use.”⁸

In discussing the results for the 4th grade males, Carney concluded that —

“These results offer impressive evidence that the drug abuse program is affecting behaviours and attitudes in the targeted direction.”⁹

Similarly, for grade five males, Carney concluded that —

“The results are persuasive evidence that the drug abuse program is selectively producing the types of attitude changes which are targeted for the program.”¹⁰

Goodstadt, in his review of the effects of the program, is somewhat more cautious in his interpretation.

“An examination of differences between experimental and control groups reveals a relative paucity of statistically significant findings. The most striking findings, i.e., for grade four males, included two differences in the undesirable direction: those who had experienced the experimental program indicated more alcohol use and smoking than control groups. A similar scarcity of statistically significant findings is discovered if the differences between experimental and control groups are examined in terms of risks and gains associated with the various behaviour. (Tables giving these statistics can be found in Goodstadt, pp. 126-127.) The most successful criteria appear to be those dealing with perceived gains deriving from behaviour, especially for fourth and fifth grade males and fifth grade females. It should be observed that the levels of significance reported in the analysis of the results are those for one-tailed tests of significance. The latter may be appropriate given the unidirectional nature of the hypotheses, but the size of the differences α , required for significance is consequently relatively small.”¹¹

However, Goodstadt then continues —

“The above analysis of significance of differences should not be taken as a rejection of the importance of the study’s findings. Additional but (up-quantified) significance is derived from the consistency of the pattern of results which frequently occur in the predicted direction, although they individually fail to reach conventional levels for statistical significance, and from the occurrence of expected interactions in the findings. It was frequently found that a tendency existed not to reduce all behaviour or to uniformly increase the perceived risks in the experimental group; high-risk low-gain behaviours (e.g., drug related behaviour) decreased while low-risk high-gain behaviour (e.g., playing games) increased in frequency of occurrence. Finally, the importance of this study is enhanced by the attempts to provide acceptable control or comparison groups, against which to measure the effects of the experimental program.”¹²

Goodstadt¹³ reports on another study by Kline (1972). This program extended over a two-week period in a junior high school (650 students). The first part of the program was made up of several hours of audio-visual presentation dealing with drugs, their classification and effects. During the succeeding two weeks one hour a day was spent in some activity related to drug use (e.g., role-playing). A questionnaire was completed three weeks later by the students. This showed that students, in general,

held a moderately favourable opinion of the program. Many felt, however, that it could have provided more information. Program effectiveness was indicated by the fact that 25 percent of professed users claimed to have stopped using and 50 percent of the admitted would-be users reported that they decided not to try drugs following the program.¹⁴

Goodstadt, however, states that these findings are striking and would normally be accepted as strong evidence of success, but for the fact that their reliability is reduced by the procedures employed in evaluating the program. A post-test-only experimental group was employed which eliminated any possibility of comparisons with pre-program baselines or with non-treatment control groups. Furthermore, the questions employed to measure changes in drug use probably included a high demand to provide acceptable answers (i.e., to claim desirable drug use behaviour). One question, for example, asked, "If you did use drugs before the program, did the information you got in the program make you decide to quit using drugs?". Also/the results of the question, "Did the program provide you with all the information you wanted about drugs," indicated moderate to low satisfaction with the program; only 36 percent of students answered positively and 41 percent negatively. Kline himself stated that —

"Since the program was designed for a younger age group, it may have been too simplified and somewhat lacking in useful facts to the junior high school students."¹⁸

Goodstadt concluded that —

"The results, though encouraging, would have to await further experimental support."¹⁸

Another drug education program evaluated is one reported by 19 Swisher, Warner and Herr (1972). This study investigated the relative impact on drug-related attitudes, knowledge and use,

resulting from four different programs. One hundred and eight ninth-grade and 108 eleventh-grade students all received standard weekly drug unit sessions which formed part of the basic health curriculum. They were also stratified by intelligence and randomly assigned to one of four experimental programs. One of these received no additional material or program — they were a baseline control group. The other three all involved some form of counselling group experience: one took the form of relationship counselling in which the students were allowed to explore the topic of drug abuse in any fashion they chose. The counsellor's role was to help the group members to accept, understand and express themselves. The counsellor remained neutral with regard to the issues.

The second and third groups received re-inforcement counselling in which the counsellor would keep the discussion focused on alternatives to the use of drugs and give positive re-inforcement to statements which represented behaviour and attitudes that would result in not becoming involved with drugs at some later day. In these groups there were also either two college-age non-drug abusing models. In each case these models facilitated the discussions towards reasons for not being involved in drug abuse. All six counsellors received a considerable degree of prior training. The counselling groups met once a week for six weeks. Counsellors were randomly assigned to each of the three types of counselling groups.

The impact of the four programs was measured by means of attitude knowledge and drug use scales. Some pre-development of the scales had been undertaken and reliability values obtained. Measures were obtained prior to and on the termination of the programs. The results showed no significant differences, between

any of the three experimental groups and the control group in any of the three areas of measurement. All four groups significantly increased their knowledge when compared to their own preprogram baseline but did not differ from each other. No changes in attitudes or reported drug use were discovered. Goodstadt comments on the program —

“The results of this study appear to be disappointing, especially considering the industry expended in designing adequate programs and evaluation. Although reasons may be proposed for the failure of the three experimental groups to show significant advantage over the control group, the basic finding that nothing seemed to influence attitudes or reported behaviour only supports previously held appreciation for the difficulty of producing shifts in attitudes or behaviour.”²⁰

Swisher, Warner, Spence and Upcrott (1973) report on a study using four different approaches to drug abuse prevention among college students. The study examined group counselling and peer influences on attitudes, knowledge and drug use, and was similar in design to the previous study (Swisher, Warner & Herr, 1972). This study was conducted with 374 college undergraduates enrolled in compulsory health courses. Three of the four experimental groups experienced relationship counselling groups, or re-inforcement counselling groups which included either former drug-abusing college models or models who had not been involved in drug abuse. An additional experimental group consisted of a discussion group in which the emphasis was placed on a rational consideration of the issues surrounding the problems of drug abuse. A control group was obtained from other health classes in which drugs were not discussed at all. All groups met for 75 minutes for each of four weeks.

Analysis of the results indicated that, as in the previous study, knowledge improved significantly, although there were no

significant differences between the performance in any of the five groups. Unlike the earlier study, however, there was a statistically significant change in attitudes (towards more liberal attitudes). Although no individual comparisons were reported, inspection of the means and analyses of variance, according to Goodstadt,²² showed that an overall significant change in attitudes occurred in the four experimental groups and not in the control group, which showed no pre-post-change. With respect to reported drug use, there was a non-significant tendency for two of the counselling groups to report lower post-program drug use compared to a slight increase in drug use in the discussion and control groups. Data were obtained which indicated a significant reduction in alcohol and cigarette use.

Goodstadt²³ concludes, in his review, that the results of this study were similar but slightly more significant than in the previous 1972 study. One reason, he suggests, for this improvement is the fact that the experimental models were closer in age and characteristics to the experimental group members, (i.e., both were college age) and hence would be more readily identified than in the previous 1972 high school study. This would not explain, however, the apparently equal effectiveness of the programs that did not use the experimental models. As a result of an examination of individual attitude items, the authors Swisher, et al., suggested that the overall-liberal change might have been due to changes in selected attitude demand (e.g., attitudes towards drug abusers) but not in others (e.g., attitudes towards personal drug use). This hypothesis was not, however, statistically tested.

Swisher and Horan (1972)²⁴ conducted a small but innovative experiment to examine the potential effectiveness of the manipulation of cognitive dissonance in producing change in attitudes towards drugs. This involved making explicit the discrepancy between positive attitudes towards drugs and a value placed upon direct experiences rather than a preference for mediated experiences. The authors also employed an unusual experimental design in that the control group was only pre-tested, while the experimental group only received a post-test. Comparisons were made between the two sets of measures in order to assess the impact of the treatment (dissonance arousal) received by the experimental subjects. This design overcomes the possible contamination effects of pre-testing and post-testing the attitudes of identical subjects. Given the short time-lag between the two testing sessions (one-half hour), the authors argued that two of the possible sources of the invalidity of the design (the contamination by intervening historical events and maturation) were unlikely to be of significance. The disadvantage of the method is that, without pre-program measures for both groups, a great deal of confidence is of necessity placed in the success of the random assignment of subjects in ensuring they are (as groups) equal in all relevant respects, including initial drug-related attitudes. Without evidence of success in achieving initial comparability, any differences in attitudes between pre-test control subjects and post-test experimental subjects could, with equal validity, be attributed to differences in attitudes existing between the two groups prior to the program.

The subjects in the experiment (34 male and female undergraduates) were randomly assigned to experimental or control

groups. Pre-testing of control subjects and post-testing of experimental subjects employed a previously-developed attitude measuring instrument. All subjects also completed an “activities preference scale,” which was self-scored, permitting a student to learn of his own preference for direct (e.g., play your favourite sport) or mediated (e.g., watch your favourite sport on T.V.) experiences. The hypothesis was that, upon receiving personal value information, students who prefer direct experiences could be expected to become dissonant and thus more conservative in their views on drugs. Since drugs are really another way of mediating experience, attitudes of students who preferred (on their own report) direct experience ought to remain unaffected (i.e., no dissonance would be induced in them). The experimental manipulation was achieved when following a brief summary of the debatable nature of drug effects the group leader stated: “no matter how you resolve these issues the best that can be said of drugs is that they are mediators of experience. Therefore, if you favour drug use but also prefer direct experience, you are being inconsistent.”²⁵ The students were then asked for their reactions to this point of view. Those who agreed were verbally reinforced. A request by the group leader for written opinions (which later indicated that more than 80 percent of the subjects agreed) was followed by post-testing of the experimental group on the attitude scale.

The analysis of differences between the control pre-test and the experimental post-test attitudes for the two sub-groups supported the hypothesis. There was a statistically significant interaction such that those experimental subjects who preferred direct experience and were (it was postulated) made to experience

dissonance were more conservative in their drug attitudes than their corresponding controls. There was no apparent difference between the experimental and the control subjects who preferred mediated experience and hence were not expected to experience any increase in dissonance due to the experimental manipulation.

Goodstadt concludes that —

“While this study can be considered exploratory due to the limited scope of its sample and design, it provides a suggestive approach which, if effective, could provide considerable economy and flexibility in its use.”²⁶

Another study is reported by Warner, Swisher and Horan 97 (1973).²⁷ This study was specifically designed to change ninth graders’ attitudes towards drugs in a positive direction. It placed emphasis on the consideration of positive alternatives to drugs. One hundred and nineteen ninth-grade students were randomly assigned either to one of three experimental conditions or to a control group. A “behavioural counselling” condition was expected to result in the greatest change in attitudes since it provided verbal and non-verbal reinforcement for anti-drug attitudes, negative reinforcement for pro-drug attitudes, and reinforcement for expressions of alternative modes of experiencing life. A second experimental condition attempted to arouse cognitive dissonance between pre-drug attitudes and other values (e.g., concern for ecology): unfortunately, the counsellors reported considerable difficulty in implementing the technique. The third experimental group — a placebo condition — involved the active participation from the counsellor, whose task was to listen and accept the comments of the students in a non-judgmental fashion. The fourth group, a control group, was exposed to a regular health unit program.²⁸

Each program lasted for six weeks with one 45-minute session per week. Pre- and post-program attitudes towards the use of drugs were assessed. The results indicated that there was a significantly greater attitudinal improvement in the behavioural counselling condition than in either the cognitive dissonance or the placebo experimental groups; differences between any of the placebo experimental groups and the no-treatment control group were not significant. The authors pointed out, however, that the apparent greater effectiveness of the behavioural counselling group may have been due to their more negative (i.e., pro-drug) attitudes prior to the program, as compared to subjects in the other conditions.

As the authors point out, 'differences of this nature make comparisons between conditions difficult since a number of alternative interpretations for apparent attitude shifts are possible:

- a) the lower pre-program score would permit greater post-program change if raw score gains alone were employed;
- b) their mean gain might even be thought of as simply catching up to the normal conservatism displayed by students undergoing other treatment procedures;
- c) subjects showing sustained pre-program differences may be distinguished in other respects and may respond to a program in different ways.⁵³

Another off-quoted project is one reported by Swisher and Piniuk³⁰ known as the Keystone Central School District's Drug Education Program. This project was conducted in a single Pennsylvania school district to discover the most effective educational program for preventing drug abuse at the elementary and senior high school levels. Two programs based either on

value clarification or mental health development, were employed at the elementary grade level. Secondary school students participated in one of three programs — value clarification, behavioural alternatives or curricular integration. At the elementary levels neither of the two programs focused on drug abuse per se but instead attempted to bolster the basic decision-making skills and/or the mental health of the young people. At the secondary levels the programs continued to focus on causative factors but also attempted to make a broad range of staff members responsible for drug education and to suggest and reinforce alternatives to drugs among this older age group.

The value clarification approach was used with children in grades four through twelve. It is a continuing process through which one's values on particular topics are identified, questioned, discussed and reflected upon for the purpose of helping the individual understand his needs and motivations and reducing the gap between what he says and what he does. Classroom teachers were trained in the exercises and strategies needed to produce successful value clarification. (Further information on the concept of value clarification can be found in Appendix C'.)

The mental health developmental approach was employed with grades one to six in an attempt to enhance their mental health by means of two specially developed packages emphasizing self-actualization by reinforcement.

The behavioural alternatives approach was used with grades seven to twelve and involved discussing interesting, stimulating and meaningful activities in a group and encouraging individuals to share their experiences and to pursue their hobbies to a greater extent.

The curricular integration approach proceeded with the provision of curriculum guides for use with grade 7-12 students enabling teachers of different subject areas (e.g., science, music) to provide a sequence of learning experience by means of accurate unemotional information about narcotics and drug abuse at a suitable level of comprehension for each grade.³¹

Few details are given regarding the implementation and methodologies employed in the study. Approximately 1,159 students from kindergarten through to grade twelve participated in one of the alternative programs, depending on their grade. Classroom teachers were trained and were responsible for the operation of the actual educational process.

Evaluation of the alternative programs was accomplished by means of pre- and post-program measures which included where appropriate, a behavioural inventory, a value scale, a measure of personal drug use, attitudes towards the law, knowledge concerning drugs and a measure designed to obtain information regarding involvement in alternatives to drugs.

Analysis of the attitudes, values and behaviour measures revealed that the elementary students in the Mental Health program significantly improved in their value scores and in their behaviour as reported by their teachers but did not change in respect to attitudes. In contrast, those in the Value Clarification program became more liberal in their attitudes towards drugs and did not change in their values (they were significantly superior to the Mental Health subjects prior to the program). No significant differences were found between grade levels.

The secondary school students responded to the experimental programs differently from the elementary students. All three approaches (Behavioural Alternatives, Curricular Integration and

Value Clarification) produced a significant increase in knowledge about drugs and significantly more liberal attitudes towards drugs. Only those experiencing the Value Clarification program demonstrated a significant reduction in reported drug use, but this result must be interpreted with caution since these subjects also reported significantly more drug use prior to the program. No significant changes were found in attitudes towards the law or in reported participation in alternatives to drug use.

The authors concluded that the Mental Health approach at the elementary level was the most effective drug education program.³² Goodstadt cautions, however, that the author's conclusion that "the Value Clarification approach was the most effective program at the junior and senior high school level" should be qualified since the Mental Health Program, which was most successful at the elementary school level, was not included in comparisons at the secondary levels. As the authors themselves pointed out, the potential effectiveness of any program will depend upon its successful implementation and its appropriateness: there was suggestive evidence, they stated, that at the secondary levels, the Curricular Integration approach was not fully implemented by the teachers and there were few appropriate alternatives available for subjects in the Behavioural Alternatives programs.³³

Goodstadt, in his review of these and other U.S. studies, concludes that —

"There is almost a total lack of evidence indicating beneficial effects of drug education. Very few programs have been evaluated and almost none have shown any significant improvements in anything other than levels of knowledge; attitudes and drug use have generally remained unaffected. The positive exceptions to this are the Coronado study and Pennsylvania (Swisher and Piniuk) program which showed some significant positive shifts in values. Attitudinal improvements were found by

Swisher and Horan (1972). A significant reduction in reported alcohol and drug use was demonstrated by Swisher, Warner, Spence and Upcraft (1973). Several studies found negative or deleterious effects. Included among these are some of the value shifts in the Coronado study (Carney 1971), the liberal shifts found by Swisher, Warner, Spence and 04 Upcraft (1973), and Swisher and Piniuk in Pennsylvania.³⁴

Goodstadt concludes that the majority of the evidence supports the conclusion that the drug education programs which have been evaluated have no documented significant effect either of a positive or a negative kind; that is, there was no change as a result of the programs.

Goodstadt's second major conclusion, which he says is essential to consider concurrently with the first, is that there is very little scientific evidence from which one could confidently draw conclusions concerning the effectiveness of drug education. He says that, given the relatively few research studies (compared to the large number of varied types of programs) and the scientific inadequacy of these few sources of data, it can only be concluded that the necessary evidence is not yet available, although the evidence that does exist is not encouraging.

Goodstadt also states that he sees two major sources of invalidity in the studies he reviewed. The first of these is the inadequacies of most of the studies as judged on their scientific merit. The second is the continued reliance on self-report measures of drug use with no substantiating evidence concerning their validity — which fact Goodstadt concludes will prolong the uncertainty and confusion in the area of drug education and its impact.³⁵

DUTCH PROGRAMS

De Haes and Schuurman,³⁶ in the International Journal of Health Education — supplement to the Oct./Dec. issue 1975, report on an evaluation of a Dutch project in which three different methods of providing drug education to school children aged 14 to 18 were studied in an experimental way in Rotterdam. The three approaches used were:

Program 1 (P1) — The Mild Horror Approach. In this approach the dangers of experimenting with drugs or regularly using them are pointed out. It aims to provide knowledge but, at the same time, warnings and moralizing comments are added.

Program 2 (P2) — The Factual Approach. This method of giving drug information is based on the supposedly widespread faulty knowledge and lack of knowledge about drugs. The aim of this program is to give exact knowledge of facts.

Program 3 (P3) — The Individual Adjustment Approach. This approach, also called the personal approach, is based on the assumption that, for the subject involved, the use of, and the addiction to drugs is mostly or often a symptom of deeper-lying problems. This approach aims to have pupils talk about their fears, uncertainties, opinions, attitudes, ideas, doubts, etc., with respect to many different issues and situations which arise in the life of the adolescent today. The opportunity to discuss problems, the awareness that others are struggling with the same kind of difficulties, the ventilation of tensions as well as learning to realize that individual and collective solutions can be looked for and found, are the essence of this approach.

The programs relied on teachers in schools involved to apply the methods. It was assumed that many had good contacts

with their pupils and that within the framework of their major teaching subject (e.g., social science) they have an opportunity to introduce and carry on program 3. As this method requires a certain skill in its practice, special training was provided to the teachers as well as assistance in their practical work. These teachers started a series of 10 discussion sessions at the time the two other drug sessions (PI and P2) were held.

The authors state that three approaches were not comparable at all points. The PI and P2 approaches were one-shot approaches containing information on drugs only. In P3, problems were discussed in about 10 one-hour discussion sessions, once weekly.

The general objects of the three programs were as follows:

- a) to prevent increase in drug use among school children, especially “hard” drugs; -
- b) to increase the knowledge that school children had about drugs;
- c) to give children more realistic attitudes to drugs;
- d) to evaluate the reasons for school children using drugs; and,
- e) to assess the relative impact of three different approaches towards achieving these aims.

However, the objectives were stressed differently in connection with each program and specific expectations also varied.

Objectives — PI (Mild Horror): -more knowledge on drugs; more negative attitudes; less admiration for drug users and a lower probability that one is going to use drugs.

Objectives — P2 (Factual): more knowledge on drugs; less extreme attitudes on drugs; less probability that one is going to use drugs; but, if one did want anyway to try drugs, more probability that soft drugs will be tried.

Objectives — P3 (Personal): increase in social maturity with, as a result, less deviant behaviour and less drug use; the increase of knowledge on drugs and a more realistic attitude regarding drugs and drug users is not essential but might be a valuable positive effect.

The schools, all located in Rotterdam, were chosen so as to represent different types — vocational, academic, large comprehensive and smaller schools. At the baseline measurement 1,035 pupils participated: 1,008 at the 2nd measurement; 971 at the 3rd measurement; and at the 4th measurement (only for P3 and the control C group), 381.

The baseline measurement took place in February 1972, two weeks before the three programs started. The second measurement was carried out two weeks after the implementation of the education session of programs 1 and 2, its purpose being to measure the short-term effects of these methods; at the same time, the P3 and the control groups were measured.

The third measurement took place three months after completion of the education sessions of program 1 and 2, to measure the long-term effects of these programs and the effect of program 3. The fourth measurement, approximately a year after the start of the program, was only implemented in group 3 and the control group (C). Its aim was to measure extra long-term effects of the P3 method, especially with regard to “growth in social maturity.”

Details of the instruments used to measure the programs’ effects and the detailed results can be found in De Haes and Schurman’s report³⁷ and will not be given here. However, the overall results will be given and are as follows.

i) None of the programs was completely successful in preventing pupils from trying hashish, although they have prevented them from starting to try “hard” drugs.

ii) All the programs, even the P3 approach which did not focus on drugs and the control group which only received the questionnaires, increased their knowledge in the short term. In the long term, a great deal of the new knowledge disappeared again. Besides an increase in correct knowledge, there was, at the same time, an increase in wrong knowledge, especially in the PI and P2 approaches. What happened was that the number of “don’t know” answers decreased: after the drug education session the pupils had the feeling that they knew the answer. In fact, some of them had a misleading conviction that their knowledge was correct. This was a negative side-effect of the drug education sessions.

iii) The appreciation of attitude change is somewhat subjective. The wording “more realistic” already includes this difficulty. If one agrees with DeHaes and Schuurman that it is realistic to expect: a) that people make a distinction between “drugs with acceptable risks” and “drugs with unacceptable risks”; and b) that pupils realize the human problems connected with drug use and agree that a differentiated policy should be applied to different kinds of drugs and drug users, then the P3 approach would appear to have been the most successful in reaching this goal.

Regarding the specific expectations of the programs, DeHaes and Schuurman conclude as follows.

The PI (Mild Horror) approach succeeded in giving more correct knowledge on the short term, but also increased the

wrong knowledge. In the long term both effects almost disappeared. This approach created only a temporary negative attitude. with regard to drugs and drug use. The moderately negative attitude concerning hashish users did not change. P1 did not succeed in keeping pupils from trying drugs.

P2 (Factual) approach also succeeded in giving more correct knowledge, but also increased the wrong knowledge at the same time. In the long term, both effects almost disappeared. A slight success was registered with regard to creating a more balanced attitude towards drugs and drug use, but the attitude with regard to hashish use was not changed. P2 was not Specially positive or negative with regard to behavioural aspects: the small number of pupils who started to try drugs tried only cannabis.

P3 (Personal) approach.. Here the expectations were somewhat different as outlined earlier. Although the changes in social maturity could not be measured with the instruments used, the teachers involved in this program praised very much its positive impact on the maturity of the pupils as well as on the atmosphere in the classroom and on human relations in the school in general. The objective to increase social maturity was apparently achieved to some extent by discussing the problems which preoccupied the pupils most — and this was not necessarily drugs.

DeHaes and Schuurman conclude that the education methods used in this evaluation study did not produce the type of overall “prevention” that is sometimes expected of drug education programs DeHaes and Schuurman thought that the focus on the problems of people — not on drugs — was pedagogically more valuable than the other programs. The P3 approach resulted in an increase in correct knowledge without an increase of wrong answers, it gave

to pupils more “realistic,” more “nuanced” attitudes on the subject of drugs and drug users and it slowed down the number of pupils who wanted to try cannabis. If one agrees that this is a relatively desirable result or a good “preventive” result, then DeHaes and Schuurman suggest that this approach should be used on a large scale basis.³⁸ This means that drug education as such would not be practised but that teachers accepted as a “confidential agent” would organize discussions on youth problems selected by the group itself and that teachers would be trained in the non-directive “guidance” provided in such discussion.

Finally, DeHaes and Schuurman conclude “that whatever the result of a drug education program may be, appreciation of the results as “good” or “bad” will depend on what one expects of such a program, i.e., on the objectives which have been implicitly or explicitly formulated.

Too often the objectives of a drug education program are not clearly stated in a detailed and operational way. As a consequence it is not possible to determine if the expected results have been achieved, nor can one control for the appearance of undesired negative side-effects. If drug education is provided without specified goals and if no evaluation is undertaken, it is quite possible that consequences other than those desired may remain unidentified.

DeHaes and Schuurman list a number of possible goals of a drug education program formulated by Dorn and Thompson.³⁹

- to minimize consequences of existing experimentation
- to promote particular attitudes towards particular drugs
- to increase knowledge
- to increase pupils’ decision-making skills
- to increase teacher-pupil communication and mutual understanding.

DeHaes and Schuurman state —

“that wanting to realize all of them (the stated goals) in one program is unrealistic as the methods needed to reach one may hinder the achievement of another. If, for example, one only wants to increase already existing negative attitudes to drugs, it may not be useful to give a complete explanation of the information available on different drugs- if, on the other hand, one feels that it is necessary to provide objective information so that pupils might decide for themselves what they want to do, then one has to accept that the decision of some pupils may be to start using drugs.”⁴⁰

DRUG EDUCATION PROGRAMS IN ENGLAND

One of the first attempts made in England to evaluate drug education there was a study by Betty Swift, Nicholas Dorn and Ann Thompson in 1974 entitled, “Findings of a National Research Study of Effects on Secondary School Students of Five Types of Lesson given by Teachers.”⁴¹ In order to investigate a number of different types of lessons already being given in schools at that time in England, the following types of lesson were chosen for research:

- 1) lessons without the use of film, i.e., teacher-centered;
- 2) lessons with the use of one of the following films:
 - a) medical dangers of illegal drug use;
 - b) a “shock” film about injected drugs;
 - e) social background to a girl with a dependent personality;
 - d) focussing on the pharmacology of drugs.⁴²

These were programs that were felt to be representative of those in use in schools in England and Wales at the time and were not designed specifically for the evaluative study. Some findings of this evaluative study are given in Appendix D at

the end of this report and further information is obtainable in the report itself.

One finding to emerge from the evaluation study was that, though many pupils attitudes were firmly anti-drug, a high proportion of those offered an illegal drug did accept it; students anti-drug feelings tended to be about “pushers” and “junkies” and did not seem relevant to the situation in which they were actually offered an illegal drug — this was usually offered by a friend or peer in a recreational situation. The researchers at the Institute for the Study of Drug Dependence in London thought, at that stage, that the first step in making drug education more relevant to real-life situations was to move beyond discussion of facts and feelings about drugs to a discussion of choice situations. Their Drug Education Development and Evaluation project (known as the DEDE project) entitled, “Facts and Feelings about Drugs but Decisions about Situations,”⁴⁴ was an attempt at a prototype course on this basis. An evaluation was carried out on the prototype materials in selected English and Danish schools (in 1975-1976) and the study was done by Nicholas Dorn with the assistance of Ann Thompson and Kirsten Hvidtfeldt.

The course was designed to be used over the equivalent of approximately eight one-hour class periods with children of fourteen to fifteen years. The materials consisted of a booklet for each pupil, two posters, and a teacher’s manual. These had three educational goals: to improve teacher-pupil communication and mutual understanding, to increase pupils’ knowledge about legal and illegal drugs, and to enhance pupils’ decision-making skills.

The booklet which was the basis of the course was entitled, “Facts and Feelings about Drugs but Decisions about Situations.” It was based on the premise that, whilst drug and alcohol education had in the past focused on facts about drug effects and/ or upon attitudes to drugs or drug takers, actual decisions are taken in relation to choice-situations. Facts had to be considered in relation to choice situations if those facts were to be remembered and found relevant in choice situations. Attitudes to “drugs” are often irrelevant as far as one’s perception of, and behaviour in, social choice situations are concerned. This prototype course aimed at helping pupils discuss decisions in a serious, realistic and informed manner, by helping them to anticipate likely choice situations before they occur and to think through, in advance, the Various consequences of accepting and refusing offers of drugs in particular types of situations. It recognizes that some pupils will experiment with legal and/or illegal drugs.⁴⁵

The prototype materials were found to be successful in teaching knowledge about drugs.

i) The knowledge goal was attained with all types of pupils in both countries. The average knowledge gain was in excess of one point on a ten-point scale of over-all knowledge. There were gains in basic knowledge (modes of use, legal status, etc.), in knowledge of short-term effects and in knowledge of longer-term effects of extended use of drugs.

ii) The goal of enhancing decision-making skills was attained, to at least some extent, with most pupils. On average, pupils who participated in the prototype course did better than those who did not by about one-quarter of a point on a ten-point

scale. The success in teaching decision-making skills depended partly on whether or not the teacher using the course favoured its goals. Pupils taught by teachers who themselves liked the decision-making, communication or knowledge goals of the prototype materials learned decision-making skills to a greater extent than did pupils taught by teachers who seemed to favour anti-drug goals of some kind.

iii) It was not a goal of the course to influence levels of drug use. However, the pupils' reports of their legal and illegal drug use before and after the course were studied to see if the teaching had had any unintended side-effects. While the course may have caused some English pupils who already smoked cigarettes to smoke less frequently, there were no other decreases or increases in use of legal and illegal drugs that could be attributed to the course. Comparing the six-week period after the course with a period of time before it, the changes in illegal drug use in the experimental and control groups were the same. Thus, the course did not have the effect of increasing or decreasing illegal drug use during the six weeks after the course.

The conclusions were drawn from a sample of 30 secondary schools in which there were a variety of types of schools, teachers and pupils. The materials were not used in especially advantageous conditions, but were used by the pupils' regular teachers who received no special training.⁴⁶

Dorn, in more recent communication,⁴⁷ has come to the conclusion, in the light of his own experience and of the reviews of Goodstadt and DeHaes and Schuurman, that drug education programs do not in general have the effect of reducing levels of drug use. He also states that "there is on balance no evidence

that alternative programs do generally prevent or reduce drug demand.” This lack of success, he states, may flow from the difficulty that most alternatives are, in fact, compatible with drug use.⁴⁸

Mr. Dorn states that he has come to the conclusion that drug education has failed in the objectives it had set out to achieve and that it has failed not because of minor problems with educational strategy but because the underlying rationale and objectives were unrealistic. Education to date had focused by one means or another in preventing demand and had identified the drug problem with drug taking. Mr. Dorn had come to the conclusion that there was a need for a complete reorientation in drug education towards what he called an abolitionist perspective.

“Abolition at the individual level would involve a rejection of the idea that chemicals directly cause certain types of behaviour and lifestyles, and an affirmation of the idea that the effects of chemicals are mediated by dose, type of drug, circumstances of use, expectations of users, social reactions of others, opportunities for further use and/or for reconsideration of the meaning of initial use, etc. Now these are very commonplace ideas in the scientific community — all experts know that at low and moderate dosage levels, drug effects are mediated by expectations, circumstances, etc. We also know that education which leads everybody to expect the worst from drugs, and to lose control of one’s drug use, is unlikely to help people control their drug experimentation — indeed it may be a major factor in translating experimentation into heavy or dependent use. Why, then, has education not emphasized the importance of expectations that would help minimize the risks of experimentation? Perhaps because such a strategy does not appear to diminish demand and drug education is locked up inside the demand-reduction paradigm? But if we recognize the ineffectiveness of demand-reduction education, then other goals become possible: in particular, we can talk about the possibilities of creating the expectations and personal skills that minimize negative outcomes of experimentation. Abolitionist drug education is, therefore, quite opposed to demand preventive strategies. Abolitionist education is concerned with minimizing the personal health and social costs of drug use costs which ‘preventive’ education simply verifies.”⁴⁹

Mr. Dorn continues —

“In terms of program content and evaluation, this suggests a concern with the creation of ‘chemical competence.’ The

program would centre on an understanding of the life-long process of building a 'chemical career,' involving various styles of use of a number of legal and illegal, medical and non-medical, over-the-counter and recreational drugs. Teaching would cover anticipation of the kinds of situations in which choices about drug use might present themselves—understanding how the various features of these choice-situations may lead one to use chemicals in a positive or negative way; the role of expectations and beliefs (of self and others) in channelling and producing drug effects (e.g., learning to recognise the effects, learning to enjoy or not enjoy the effects, etc.); how to give support and take ameliorative action in times of difficulty; how to fatalise on drug myths and how to avoid falling into patterns of drug use they offer, etc. Such progress would clearly have a substantial drug-factual element, as well as dealing with skills of management of drug experimentation.

Evaluation would focus on several types of outcome:

- * knowledge of drugs most likely to be encountered.
- * success of program in neutralising fatalistic drug myths, and in promoting images of the drug experimenter as competent.
- * success in teaching realistic expectations of drug-choice situations, and skills of management of initial drug experimentation.
- * in the longer-term, success in increasing the proportion of experimenters who are able to retain control and to terminate or to continue with episodic use, rather than graduating to heavy or dependent and self-destructive styles of use.
- * possibility of 'side-effects' of the program in increasing the numbers of experimenters.

An increase in the number of experimenters would be tolerable for an abolitionist program if the program was sufficiently successful in reducing the proportion of experimenters who become 'casualties.' An increase from 15% to 20% in the proportion of a population who experiment would be acceptable, for instance, if the 'casualty rate' reduced from 10% to 5% of experimenters: the absolute number of 'casualties' would then go down.

The practicalities of such a program cannot be commented upon in detail: one would have to explore the issues by mounting the program in an experimental way. From the evaluation point-of view, it would be desirable to compare the abolitionist approach with one or more 'demand-reduction' approaches, and with a control group receiving no or minimal drug education. There remain, however, enormous social and

political impediments to attempts to reduce drug casualties by such programs, and we would also suggest that abolitionist programs at the individual level stand little chance of success unless carried out within the context of compatible programs at community and national levels. This means that the 'reduction-of-demand' approach must be fought and discredited at the levels from which it originates. In-school and individual-orientated abolitionist education is worth developing, but must be developed within this broader framework."⁵⁰

Mr. Dorn concludes that the following would be objectives of abolitionist education:

- a) stop drug education (cognitive and/or affective which attempts and fails to prevent drug demand and experimentation;
- b) begin drug education designed to:
 - i) reduce negative expectations and styles of drug use;
 - ii) reduce stigmatizing social reaction against labelling of drug users;
 - iii) enhance people's ability to experiment safely with drugs;
- c) extend professional and in-service training to cover links between drug education and broad social policy questions;
- d) evaluate the effectiveness of such attempts to reduce harm.⁵¹

Before leaving the question of specific school-based programs it might be of interest to mention a study in the U.S., reported in the Journal of Drug Education (1977) by Freeman⁵² and Freeman which aimed to see at what age children in a rural area become aware of drugs. The "awareness" of drugs among rural elementary school children was studied with a word-association test of drug slang and words with no drug connotations given to students selected randomly from each of six grades. The first grades were conscious

primarily of alcohol. The significant rise in drug-related responses came between the third and fourth grades (8 to 9 year olds), while the biggest shift to non-alcohol drug responses came between the fourth and fifth grades (9 to 10 year olds). The study suggests that young rural students, at least in the U.S., are not immune to the influence of the drug culture. While one could not automatically generalize from this study to another country, it would suggest however that curriculum planners should determine when local students develop an awareness of drugs

O’Keefe, in his article “Sometimes Allies: The Mass Media and Drug Abuse Education,”⁵³ refers to a number of studies about sources where people, in particular young people, get their information on drugs. A project concerning sources of drug information was carried out in the late sixties in three Canadian cities by Fejer, Smart, Whitehead and LaForest (1971).⁵⁴ More than 1,200 students were interviewed in Toronto, Montreal and Halifax during 1968-69. In all three cities it was found that in general the news media were by far the most relied-on source. Unfortunately, the researchers did not report which of the news media, if any, was the most informative, and why.

An important difference in information source about drugs was uncovered in regard to whether the respondents were inclined to use, or had actually used drugs. In Toronto the drug users got most of their information from friends (34.2 percent) and their own experience (30.3 percent). Among those who might use drugs, the news media (49 percent) were most important. Those who were determined not to use drugs also reported they were most influenced by the news media (58.5 percent). In Halifax, the users relied most heavily on friends (37 percent) followed

by their own experience (34 percent). Here a difference was found in those who might use drugs, with 45.7 percent saying they relied most heavily on friends; the news media came in second with 39 percent saying it was their primary source. Those who would not use drugs said they relied most heavily on the news media.

In Montreal, however, the same pattern was reversed for drug users, 80 percent of whom said that they relied primarily on the media. The media were also the most important source for other groups but to a lesser degree. O'Keefe states that the most important finding of the study is the fact that those who may rely most on the media for their information are the non-users, thus suggesting that the media's chief function may be prevention via drug education.

Data on sources of information were also gathered by the University of Connecticut through its Drug Abuse Information Research program. Hanneman (1973)⁵⁵ summarizes some of the results based on self-administered questionnaires given 407 college students aged 19-24. The results show that, among the college students studied, friends provide initial awareness about marijuana and amphetamines, and that friends and the media generate an equal amount of awareness about other drugs. Those seeking drug abuse information prefer friends and professional sources rather than governmental agencies regardless of the type of drug information needed.

It was also found that, while friends were the most popular source of drug abuse information about marijuana, professional and quasi-professional sources were preferred for all other types of drugs.

O'Keefe, in his article, concludes that —

“Both the Fejer and Hanneman studies concerning illicit drugs seem to agree on one important point: information gained through the mass media, which would include drug abuse Public Service announcements, is more important for non-users of drugs than for users. Further, drug abuse Public Service announcements may also play an important role in stopping those contemplating drugs from actually attempting them. Consequently, the role of the mass media in illicit drug education seems more advantageous in the area of prevention than rehabilitation and reform.”⁵⁶

While such information is not automatically generalizable from one society to another, particularly since some societies may not use radio or T.V. as a source of information on illegal drugs, it nevertheless points to an area which would bear investigating at the planning stage of any local drug education program.

While the majority of education programs concerned with illegal drugs are centered in the school/some attempt to have a broader community base. In Sweden, for example, an attempt is made to provide drug education through youth clubs and organizations. Mr. Benny Henrikson,⁵⁷ in a paper read at a Seminar on Drug Information held in Stockholm in 1975, describes some aspects of this approach.

Money is provided by the Government to the Swedish National Youth Council which is then responsible for the distribution of the money to the various youth groups and for the coordination and evaluation of the projects. More than 60 percent of Swedish youth belongs to one of the 60 youth organizations in the country.

Within this overall framework various youth organizations are allowed to deal with drug education in their own way and may run projects on the basis of their own standards and experience.

The underlying principle of the approach is that the campaign should not consist of information from above downwards but of a reciprocal process in which youth are encouraged to become aware of the association between the misuse of alcohol and other drugs and other social problems and to respond with increased mental and social activity, e.g., criticise, seek further information and discuss the information with other members of the society.

An example of types of projects undertaken would be the following: The Swedish Union of Secondary Schools is an organization drawing primarily on pupils in the seventh to ninth grades (aged 14-16) and the sixth form colleges (aged 16 and upwards). A number of pupils from each school are trained so that they can pass on their knowledge to their contemporaries at schools throughout the country. The purpose is to promote awareness of the drug problem from a social and political viewpoint.

The Youth Association of the Union of Temperance drivers of Sweden goes out to youth centres and offers their members an opportunity to take part in weekend courses at which drug problems are discussed in the context of the young people's interest in engines and driving. Then the courses are followed by a series of projects at youth clubs.

The Swedish Sport Association addresses its campaign to approximately 250,000 local sports leaders. Its purpose is to discuss the responsibility and importance of these leaders in preventive work among the young.

The Swedish Junior Red Cross (URK) has also borne in mind the importance of reaching new youth groups outside its own ranks, e.g., by making contact with approved schools. The Red Cross also

organizes joint camps for its own members and young people with social problems.

The National Association for Help to the Addict (RFHL) has produced a poster exhibition under the title, "From Flight to Flight," and now works with debates, films, plays, lectures, etc., in connection with its showing in schools, libraries, youth clubs and the like. In addition, RFHL seeks to produce effective information material for young people with problems. Small folders, locally produced, which briefly describe their view of addiction problems, and which at the same time present the leisure activities and assistance available in the area, have proved to be an effective method.

RFHL also use simple cameras and cassette tape recorders to set in motion a project in which young people in "open houses," youth clubs, or in residential and treatment collectives may describe their reality.

Mr. Henriksonn sees both positive and negative outcomes from this particular approach.

The organizations themselves pointed out that, at the beginning of the campaign, too much money was invested in the production of information material rather than in the promotion of various activities.

Occasionally the organizations have established contact with youngsters with social problems and, for various reasons, failed to follow through.

The drug problems and the methods of dissemination of information on drugs are still a sore point in many organizations. This has the result that many leaders feel that their organizations should not work with drug information; they would prefer

to hand over all the responsibility to the traditional temperance organizations.

On the positive side, the debate on and the concern for the problems related to alcohol and drugs and other questions of social policy has been stimulated. The youth organizations have established valuable contact with new groups in the society, i.e., young people who were not previously involved in any organization and young people with social problems. Young people have been afforded an opportunity to design their own campaigns which has provided the authorities with valuable information on how these youngsters regard social problems.

While the information available (at the time of writing) on this approach is general, it is included here as an example of an approach that differs slightly from the more common school curriculum based one.

A community-school type approach is reported by Wolk and Tomanio in the *Journal of Drug Education* (1974).⁵⁸ It deals with a workshop-type course conducted in a Connecticut town of about 50,000 population. Concern was experienced by school administrators and teachers about the increasing use of drugs (notably barbiturates and methaqualone) by junior and senior high school students. School officials, seeing the apparent failure of their own drug education efforts, requested help from the town's community-based drug treatment and prevention program and from the Community Services Department of the Regional Narcotics Program. Consultation interviews were arranged between staff of Community Services, several school administrators, and the director of the town's drug program. Information thus gathered described the nature and extent of the problem and the

needs and goals of the school, as perceived by these key administrators. Resources, time availability and willingness to involve various segments of the school and community population were explored.

Agreement was easily established that many crises facing us today (drug abuse, crime, etc.) result from personal, familial and cultural reasons. Focusing a program on drugs, per se, was not believed to be of prime usefulness. Rather, all parties agreed that a program designed for school and community persons should involve them in an exploration of different value systems, styles of living, uncertainties about “the ‘future which cause personal tensions, and poor interpersonal and group relationships, particularly concerning youth.

Workshop participants would be asked to identify, explore and discuss key problems affecting the individual, the family, the schools and the community at large. Major objectives would be:

- 1) to increase awareness and appreciation of self and others;
- 2) to learn and practice skills necessary for more effective communication;
- 3) to provide an opportunity to plan ways of resolving current personal and drug-related problems of youth in the community and in the schools.

An all-day workshop was scheduled for junior and senior high school students, teachers, administrators, parents, ministers and other interested community persons. Two follow-up sessions of two and a half hours each were arranged for two succeeding weeks. Invitations were extended to interested persons, and the

community was notified about the workshop through local newspapers and radio stations.

Ten persons from several area youth-oriented prevention and treatment programs were recruited for a volunteer leadership team.

One hundred and four persons attended the all-day session. These included 28 students, 23 teachers and guidance counsellors, 9 administrators, 10 parents and 24 people representing various segments of the community (ministers, police, juvenile probation officers, etc.).

Following a brief introduction of personnel and orientation to the total workshop, participants were divided into ten prearranged heterogeneous groups.

The morning session was devoted to establishing rapport among group members. Through leader-directed strategies such as value clarification techniques, small and large group interviews and verbal pairing techniques, participants shared their goals, values, expectations, backgrounds and interests. An identification of problems and issues related to the schools and/or the community was briefly explored. Although the morning sessions focussed primarily on interpersonal sharing of self, the ultimate goal of action-oriented problem-solving rather than personal growth was emphasized.

The afternoon session was directed toward a structured problem-solving format. School-community issues were identified (through brainstorming), clarified, examined and evaluated. One issue was chosen on which to focus the group's energies. A force-field analysis was used to examine this issue, and action plans were discussed.

During the final hour of the day, all workshop participants assembled and each group reported its progress and plans. Major issues identified at this time included:

- communication between teachers and students;
- alternatives to wasted time;
- availability of the town's recreational and leisure-time facilities for young people;
- humanizing the school experience;
- human relations workshops in the schools.

It is notable that, although all groups identified and discussed the drug problem, not one group chose drugs as the primary area of focus for its action plans. Effective communication among people was the overriding concern.

The first followup was held one week later with 60 participants. Since several small groups and plans were similar, the leadership teams presented combined forms of problem statements and tentative action ideas to the participants. Participants were then offered an opportunity to remain with their original group or change groups. Four separate groups evolved — areas of concern were:

1) Improving the network of communication within the school system — teacher/student, teacher/teacher, teacher/ administrator, etc., so as to effect better understanding of the needs of each individual. Two groups evolved from this theme; the second explored better means of communication throughout the entire community.

2) Humanizing the school climate by including within the daily curriculum a means of exchanging ideas, values and feelings on an interpersonal basis. Examining administrative structures with a view to depersonalizing the school, experience.

3) Determining the availability of recreational and cultural programs within the community; making program information known to the community at large.

The task of follow-up groups was to review, refine, and further evaluate specific action plans. They were to explore the need for an availability of resource people, facilities, and finance.

Forty people returned to the second follow-up which was held one week later (2½ hours long). Following small group discussion of the action plans, each group reported on its progress to the total workshop. A workshop review and evaluation was incorporated into the final segment of the program. Results of the project were separated into three overlapping areas:

- A. Action plans and progress;
- B. Open-ended questionnaires concerning the personal meaningfulness of this workshop;
- C. A post-workshop goal achievement inventory.

Details of the results can be found in the article itself and so will not be included here. Results on the action plans and progress will be given with just a summary of the other findings.

Action Plans and Progress Results: This area was evaluated two weeks after the final follow-up session. Three of the four groups listed below (I, II, IV) continued to be actively involved, Group III lost several members and was barely functioning. At this time more than fifty-five people were participating in workshop initiated projects, including students who did not attend the workshop.

Group I: This group evolved into a relating group of thirteen people (teachers, administrators, students, community persons, parents) meeting weekly at the headquarters of the community based drug program. Their goal was to continue an open, frank dialogue as an extension of their experience in the workshop sessions. While they learned more about themselves and each other, they were also focusing on the activities of the drug program; several had joined its governing board, others had become directly involved in its activities as volunteers.

Group II: This group organized spontaneous “rap” groups in one of the high schools, during the school day, as a means of developing better communications between students and teachers, teachers and teachers, etc. The principal approved of these sessions as alternatives to study halls, detention halls, and free periods. The groups explored issues such as smoking regulations, detention policies, etc.

Group III: During the two weeks spanning the workshop this group pressed the school administration by circulating petitions and meeting with school officials, to hire a human relations specialist who would structure part of the curriculum around group experiences. The group also suggested to the teacher’s association that an entire day be devoted to a teacher-student human relations workshop.

Group IV: The largest remaining group representative of all workshop participants met weekly at the community drug program’s facilities. Their action plan was three-pronged:

- 1) They surveyed and catalogued all available leisure-time educational, cultural and recreational resources for townspeople. The completed list was circulated and published as a . Community Calendar.

2) In consultation with the Director of Research of the Regional Narcotics Program, they designed a study model to determine community needs in the areas they were surveying.

3) As a long-range goal, the group discussed plans to institute infra-town public transportation, most likely a minibus system, to provide access to all sections of the community and its resource facilities.

In the open-ended questionnaire, participants expressed a high degree of enthusiasm for the workshop. Many comments reflected upon the amount and extent of interpersonal sharing of values, ideas and feelings. Personal growth gains were experienced and a deep appreciation for the workshop experience was expressed by many.

Wolk and Tomanio summarize the findings as follows:

“Results from the three post-workshop evaluations are consistent. Participants not only experienced and expressed personal learning and development; they became, and are making plans to become, actively involved in examining and resolving school-community problems. A commitment has been made by a good number of participants to help the community and schools become a more exciting, meaningful personal educational experience.

However, all participants were not satisfied. Following the workshop several parents expressed the need to learn more about drugs and their effects. Implied within their comments was a need to reduce their own ignorance and anxiety through factual information. They felt that in this way they would be better able to cope with comments and questions youngsters ask about drugs. Moreover, ‘drug specific’ information they felt would help reduce their own confusion about conflicting stories and newspaper reports.

Timing: The workshop described was conducted during May 1973. Although participants continued to be active in June, the summer recess resulted in a marked decrease in involvement, a natural expectation.

Ideally this type of workshop should be conducted during the first or second month of a new school year. The motivation and momentum engendered during the workshop requires further opportunity and time to develop.

Administrative involvement. If an innovative educational program or method is to be successful within the school system, administrators must either become directly involved or actively and continually encourage others to become or remain involved. This is one means by which teachers and students receive reinforcement for their efforts to improve existing educational practices.

Finally, to achieve some measure of success for community-based educational-preventive programs, an interdependent working and sharing relationship among school personnel, students and community persons should be attempted and, hopefully, established.”⁵⁹

It is important to bear in mind when looking at the results of the program that the assessment was done approximately two weeks after the last program session. Another later follow-up would have been very useful in seeing the extent to which commitment and participation remained over a period of time. Nevertheless, it is an example of a program that did not confine itself to school pupils and could provide some ideas for parent drug education programs, bearing in mind the fact that its drug information content was found lacking by some parents.

From the foregoing studies that have already been implemented one can see the difficulty of stating that any one program of drug education has been particularly successful. As mentioned by Nicholas Dorn, the question of the goals of a drug education program, other than that of minimizing casualties from drug abuse, can still be viewed as open to discussion. Discussion on the goals of a drug education program would have to precede the drawing up of any program and, while one may learn from another society what goals can or have been achieved, the decision on what goals are worthwhile will probably still be made in the light of the values of that particular society, and even within a particular society there may not necessarily be a consensus on values.

Bearing this difficulty in mind, it might be useful to summarize some conclusions drawn by Swisher (1974) in an article entitled “The Effectiveness of Drug Education: Conclusions Based on Experimental Evaluation”:⁶⁰

1) Nearly any kind of educational program will result in an increase in knowledge about drugs.

2) Increasing knowledge about drugs has virtually no short-term impact on students’ attitudes towards the use of drugs or their self-reported use of drugs.

3) The major difficulty with cognitive programs has been that they were conceived at the lowest level of cognitive functioning. Here Swisher is thinking in terms of Bloom’s well-known taxonomy of educational objectives. He feels that programs that were designed at higher levels of functioning than simply recall and understanding such as, for example, the synthesis of knowledge obtained, its application or its evaluation, might be of greater assistance in influencing attitudes and use. He has in mind here a curriculum for students which would include:

- a) criteria for evaluating research;
- b) abstracts of research which are critiqued according to the criteria;
- c) activities such as writing a press release through which young people must apply the results of the research critiques. (Presumably, such a curriculum would be intended for older students.)

4) Attitudinal change appears to be more difficult to effect and only programs based on sophisticated theories of behaviour and attitude change (for example, cognitive dissonance) have had any results.

5) There is very limited evidence that any program has been successful in altering drug use patterns at any educational level.

6) Programs designed to increase participation in alternatives such as TM or other activities have been difficult to implement, and there is no evidence that they have been successful,

7) Based on very limited evidence, value clarification appears to be most appropriate at the secondary level. (Earlier in the article Swisher stated that —

“our very tentative conclusion would be that value clarification holds some promise at the secondary level, but that the high level of abstraction required to undergo the process and the verbal nature of the process raises serious questions about its appropriateness for young children. Even if these objections are overcome, we have also found that the value clarification approach requires extensive flexibility, creativity and improvisation on the part of the teachers and these requirements may be enough to result in the ineffectual delivery of the program.”⁶²

8) Highly structured materials designed to improve mental health were effective in one study in both improving mental health and maintaining conservative attitudes towards drug use among elementary level students.

9) The greatest need for future evaluation efforts is to conduct long-term (3-5 years) follow-up of the intended outcomes.

NOTE:

Goodstadt and colleagues have recently (1979) compiled a report, “Drug Education: Proposed Future Directions,” which is an initial attempt to provide order for the Addiction Research Foundation’s activities in this field. The issues raised in it would be of interest to those concerned with the formulation of health education programs. However, the report, while available for reading in the Health Education Bureau’s Library, cannot at this stage be quoted. This is at the request of the authors.

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CONCLUSION

As will be apparent from the foregoing chapters, nowhere does a golden formula for preventive health education programs appear to have been found. It is probably naive to assume that habits such as smoking and drinking, which have become engrained in cultures over a long period of time, could be modified overnight. Since, however, long-term follow-up of education programs has been rarely undertaken, the Conclusion cannot be drawn either that health education is ineffective. -

It would appear that the mass media have a role to play in the dissemination of information, and one might hypothesize that over a period of time they provide an input into the environment which, mediated by Other factors in the culture and by more specific programs such as school based ones or advice from physicians, may help to reinforce healthful attitudes.

It would appear that a key role in health education should be played by physicians and health personnel, particularly public health nurses. For groups that may be particularly hard to reach by other means, the use of contact with child welfare and maternity clinics as means of giving information/advice on the effects of smoking and alcohol abuse and on bringing home to mothers the way in which example may affect their children's later use of these substances may be a vital strategy.

As is obvious from the review presented in the previous chapters, a variety of approaches in the three areas have been tried at school level. While it is not possible to select any one as the best for all purposes, it would appear that the provision of factual information on the constituents and effects

of nicotine, alcohol and illegal drugs (as well as some of those commonly got over the counter or on prescription) — the provision of such factual information — where possible, integrated with subjects such as biology, chemistry, etc. — would be a necessary element in any school program. For younger children the use of doll models or short sketches might hold promise, while those in the nine-to-twelve year age group would appear to benefit from programs on the Berkeley “The body is a beautiful system” model. Values clarification techniques appear to hold some promise for second level students. As mentioned previously, highly structured materials designed to improve mental health by encouraging and reinforcing self-actualizing behaviour were found effective in one study in improving mental health and maintaining conservative attitudes to drug use among elementary level students. This would appear to be in line with the call mentioned earlier on page 68 for the encouragement of self esteem in children and for helping them as they grow older to become aware of social pressure and to anticipate conditions under which decisions may have to be made. It should be mentioned, however, that teaching skills in these areas are less developed at present than traditional pedagogic ones. The fact that results to date would suggest tentativeness about their success should not be taken to mean that they are not potentially effective as long-term means of encouraging people to refrain from self-damaging behaviour.

An interesting suggestion referred to earlier on page 68 might usefully be mentioned again. This is the article on “Feedback facilitated relaxation training as primary prevention of drug abuse in early adolescence” by Richard Volpe of the

University of Toronto. He states that —

“biofeedback when employed in connection with relaxation practice can facilitate the development of a sense of competence in relation to one’s self as internal states never thought capable of self-management are brought under control.”

Later he states —

“biofeedback provides an effective means of regulating the pace of daily life, thought patterns, bodily processes, habits, perceptual style and activation levels. Relaxation extends one’s repertoire of skills and strengthens available resources in meeting life’s challenges.”

Volpe reviews a number of studies which show that children from the age of six onwards can be taught progressive relaxation which would provide them with a means of discriminating and controlling levels of anxiety arousal. He concludes —

“Underlying this approach is the assertion that the early adolescent can attain a level of self-awareness that will enhance self-esteem, reduce the experience of debilitating anxiety and contribute to constructive adaptation. Although feedback facilitated relaxation training is a potentially powerful approach to primary prevention, the next step in its use should be systematic evaluation.”

As an aspect of a long-term approach to preventive education, consideration might be given to the inclusion of some form of relaxation training in a Physical Education program.

One could mention many more general points that would have implications for a broadly based health education program, e.g., the reinforcing of feelings of competence in children in relation to their environment, by encouraging and praising their participation in projects and activities in school and community, the encouragement of ideas of social responsibility and contributing to community life, the linking in of themes on the pollution of the environment with themes on the pollution of the human body, the drawing of parallels between the wise use of energy sources and the wise use of human energy, the discussion of

stress as an aspect of living, the discussion on the role of pain in both its physical and psychological aspects as a signal to be investigated and through which one may learn and grow, rather than as something to be immediately suppressed by drugs, the encouragement of direct experience, as mentioned in the cognitive dissonance theme referred to earlier, rather than experience mediated by drugs, even though the former might be a slower and more discipline-demanding process. Themes such as these developed at opportune moments by teachers, parents, adult educators, etc., might be seen as a necessary context in which the narrower aspects of health education would be dealt with.

Finally, one might say that it is unrealistic to expect education programs alone to promote healthful behaviour unless there is seen to be some attempt to ameliorate some of the external conditions that create crippling strain or low self-esteem. Such conditions and norms will vary from one society to another but one obvious one would be poor socio-economic conditions or a situation where an economy could not hope to provide full employment, yet unemployment still carried a social stigma. Consideration of these and other wider cultural factors is outside the scope of this report but it would seem that to ignore them in any overall health policy would be to make unrealistic demands on education programs.

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A P P E N D I C E S

APPENDIX A

An evaluation of one Unit (the lungs and respiratory system)
of the American “Elementary School Health Curriculum Project”
(“Berkeley Project”)
Evaluation Report No. 2

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C O N T E N T S

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- Appendix III Means on attitude scales (Norton J, & I.)

1. Introduction

This report follows on from a previously circulated one “An evaluation of one Unit (.the lungs and respiratory system) of the American Elementary School Health Curriculum Project (“Berkeley Project”) at Norton J. and I. School.”

This second report describes the evaluation of the “Unit at the second trial school Nether Green Middle, It also incorporates some Sections from the first report so as to give an overall picture of the effect of the Unit in both schools.

The two reports are of particular interest since:

- (i) they provide details of the only evaluation of this Unit which has been attempted outside the USA
- (ii) they outline what is in fact still a rare event, i.e., an evaluation of a-major curriculum innovation carried out by a local authority
- (iii) they indicate how a local authority can coordinate expertise both within and outside itself to contribute to an evaluation strategy.

2. Acknowledgements

In writing these reports I have drawn upon the contributions of a number of people who were kind enough to assist-me in the evaluation. In doing so I have obviously had to make judgements, in the interests of obtaining a reasonably coherent statement, about the extent to and way in which such contributions should be presented.

The evaluation presents evidence based not only on objective data but also on the subjective, but professionally informed, impressions of several observers. There is no need to apologise for reliance on the

latter since no evaluation can be totally objective, and attempts to make it so may cause many interesting features to be omitted.

The people who assisted are listed below:

- (i) Miss J. Garforth (Adviser; Research and Evaluation) who was concerned with field observations and statistical analysis
- (ii) Mrs. M. Evans (Head Teacher) and Mr. A. Miller and Mrs. B. Keeling (teachers) of Norton J. and I. School
- (iii) Mr. H. Foley (Head Teacher) and Mrs. A. Guest (teacher) of Nether Green Middle School
- (iv) Mrs. P. Elkington (Advisory Teacher for Science) who took part in teaching the Unit at Nether Green
- (v) Sheffield Polytechnic Department of Maths and Computing and the Sheffield Town Hall Computer Department who undertook the statistical analysis of the Norton and Nether Green data respectively
- (vi) Mr. D. Reid (Assistant Director, Health Education Council) and Ms. H. Hyde (Field Officer - Schools, Health Education . Council) who made available their field reports
- (vii) Mr. W. Latham (Principal Lecturer at the former Totley-Thornbridge College of Education and Mr. B. Worthington (a Head Teacher seconded to the Totley Reading Diploma course) who carried out the readability analysis
- (viii) Dr. K. Halliwell (Head of Education Department at the former Sheffield City College of Education) who carried out an observational study of the “stations” aspect of the Unit
- (ix) Mr. G. Long (Senior Advisor), Miss E. A. MacHugh (General Advisor) who highlighted some of the general educational implications of the Unit.

3. General description of the “Berkeley” Project and the Unit on the lungs and respiratory system

The Berkeley project is a health education scheme, currently intended for 9 - 12 year olds, which grew out of developments in the Berkeley School District, California, in 1962. It now receives federal support from the Bureau of Health Education, U. S. Department of Health, Education and Welfare, and has been taken up by some 200 school districts throughout the U. S. A.

The materials consist of three Units, each intended to be taught for about an hour a day for eight - ten weeks in the school year.

| U.S. Grade | Approx. Age of pupils | Topic |
|------------|-----------------------|------------------------------|
| 5th | 10+ | Lungs and respiratory system |
| 6th | 11+ | Heart and circulation |
| 7th | 12+ | Brain and nervous system |

The overall aim is to inculcate such respect for the body that individuals will be less tempted to interfere with its workings in later life, e.g., by smoking, excessive drinking, drug taking, etc.

The methods used include the intensive use of resources such as tapes, films, slides, etc., for both individual and class study. Dissection of animal lungs, hearts, etc., and the use of the microscope are also included.

An interdisciplinary approach is encouraged, with links to art, music, maths, P.E., and basic language skills. In addition to making their own models and drawings, the children write poems and essays and take part in panel games.

The involvement of parents, voluntary agencies (e.g., the Red Cross), doctors and the community generally is also encouraged, with much reliance on outside speakers, and an absence of “preaching” by the teacher.

The course is intended to be taught by non-specialist teachers, rather than specialist biologists and the U. S. organisers therefore insist that all teachers participate in a two-week course for each Unit.

The Health Education Council invited the Sheffield L.E.A. to carry out a pilot trial of one Unit only of the project (the lungs and respiratory system) in two of its schools (a junior school and a middle school). As a result, the head teachers of the two schools, three teachers, one advisory teacher, the L.E.A. adviser for Health Education and the Assistant Director (Schools) of the Health Education Council attended the Rocky Mountain Regional Workshop for “The lungs and respiratory system” Unit in Denver, Colorado, in July 1975.

Description of the Unit on the lungs and respiratory system

The Unit aims to develop an understanding of the physiology of the system, how it can be affected by man’s abuse of the environment, how it is possible to abuse the system and the body as a whole by individual actions, e.g., smoking, and how to take care of the system for maximum health.

The Unit is organized in the following five phases:

Introductory Phase — The vital and immediate need for air — all living things need air, how breath can save a life.

Phase I — Awareness of the respiratory system — the 9 body systems — purpose of main organs — relationship to other systems — effects of drugs and alcohol.

Phase II — Appreciation of lungs — composition of the air-breathing mechanism — harmful effects of some things breathed in.

Phase III — Structure and function of the respiratory system.

Phase IV — Diseases of the respiratory system — prevalent diseases, causes and effects and prevention.

Phase V and Culmination — Prevention of diseases of the respiratory system and care of the body.

The materials, produced by the American project team, consist mainly of:

Teacher guides to the sequence of lessons to be followed.

Lists of recommended films, film strips, models, books, experiments, etc.

Worksheets, or suggestions for their construction.

The project team has produced very little original material for direct use by pupils. All of the recommended visual aids, etc., are already available on the commercial market; none has been produced especially for the Unit.

4. The context of the pilot trial of the Unit at the second Sheffield trial school (Nether Green Middle)

Nether Green was re-organised as a middle school in September 1975, During this its first year as a middle school it has a total roll of 366 pupils drawn from a catchment area with a high proportion of middle class families. The school, like that of the first trial school Norton J. and I., has a firm commitment to health education. The M1 year has a sex education programme in which teachers choose their approach from three themes (birds, plants, animals) with BBC radio vision materials also being used. In M2 pupils take part in a short dental project involving students from the local Dental Hospital.

The M3 year (three classes) participated in the Unit. As with Norton J. and I., one measure of pupil ability, reading comprehension, was available from school records. Standardised scores of pupils on the NFER

Reading Test AD had been “obtained ‘in-April of the previous year. Heap standardised scores on this test are given below together with, for comparison, those of Norton J. and I.

Standardised scores on NFER Reading Test AD

| Nether Green M. | Norton J. and I. |
|---|---|
| Boys (N = 47) mean = 110.10 standard deviation = 14.05 | <u>Boys</u> (N = 22) mean = 102.23 standard deviation = 15.48 |
| <u>Girls</u> (N = 41) mean = 116.55 standard deviation = 12.18 | <u>Girls</u> (N = 33) mean = 102.38 standard deviation = 9.93 |
| <u>Boys and Girls</u> (N = 88) mean = 113.01 standard deviation = 13.54 | <u>Boys and Girls</u> (N = 55) mean = 102.32 standard deviation = 12.36 |

As can be seen the reading attainment of the Nether Green sample is Substantially superior to that of Norton. This superiority is not surprising given the considerable difference in the socio-economic complexion of the catchment areas of the two schools.

The organisation of the Unit

The three M3 classes involving 93 children (49 boys and 44 girls) participated in the Unit. Sometimes the three classes remained intact for the various activities. On other occasions they were split into halves and recombined to give two larger groups composed of one-half from each of the original classes. Any Unit session involved either the alternation of the larger groups between two activities or the original classes between three activities. The main teaching/learning areas were three adjacent classrooms one of which was used for the showing of all films. In addition the hall, library and TV room were used.

None of the three M3 classes was taken by their normal class teacher. The staff associated with each class were the head teacher, one of the M4 teachers and the L.E.A.'s advisory teacher for science, all three of whom had attended the American training course. However the three displaced M3 teachers remained with their classes throughout the duration of the project and were actively involved in helping children both individually and in groups. On most occasions therefore there was a total of six staff, i.e., an average of two per class, available. The provision of extra staff coverage at Nether Green was a major feature which distinguished the organisation of the Unit from that at Norton. Another difference, arising from the involvement of three classes rather than two, was the triplication of "stations" on some occasions.

The Unit was studied on three mornings a week over a six-week period. At Norton the Unit was concentrated into a shorter period of time (3 weeks) by taking the Unit every morning. Norton also made use of some afternoon sessions for completing and following up work from the first two phases in particular. This "extra" time represented perhaps ten or so hours. In the case of Nether Green, there was some extra follow-up time but in total this was less than ten hours. However in both the Norton and Nether Green trials children were encouraged to complete work at home.

The allocation of time in the main morning sessions to the various phases of the Unit for both schools was as follows:

| Phase | Time allocated in hours (including break time) | |
|-------------------------|---|--------------|
| | Norton. | Nether Green |
| Introductory | 9 | 7.5 |
| Phase I | 9 | 7.5 |
| Phase II | 12 | 7.5 |
| Phase III | 9 | 7.5 |
| Phase IV | 6 | 7.5 |
| Phase V and Culmination | 9 | 5.0 |
| Total time (hours) | 54 | 42.5 |

A day by day account of the organisation of the Unit in brief note form assembled from the evaluators' diaries is given in Appendix I.

5. The immediate effects of the Unit on the children

(i) Knowledge gain: In the Norton trial a 27-item test was used. This test was developed in the following way. The three teachers involved in the Norton trial were asked sometime in advance of the start of the Unit to generate a sample of questions which they would like most of their pupils to be able to answer at its completion. These questions, together with others derived from an American test, formed a pool from which the evaluator made a selection. These questions were then cast into a short answer or multiple choice format to give a test of health knowledge related to the respiratory system and body systems in general.

This test however was modified somewhat, in the light of the Norton trial, the effect of which was to provide one of 28 items which was also more comprehensive in its coverage.

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- (1) Developed for the American evaluation of all three Units of the total Berkeley project (Dept. of Health, Education and Welfare, Public Health Service, Centre for Disease Control. Bureau of Health Education. Atlanta, Georgia 30333.)

The modified test was administered to all Nether Green pupils a week or so before the start of the unit (pre-test), and again a day or so after its completion (post-test). The questions were in printed form, but to lessen any reading difficulties they were also presented orally one by one. Sufficient time was allowed (approximately 30 minutes) for all children to answer such questions as they could.

Pre- and post-test scores for boys, girls and boys and girls are given below for both Nether Green and Norton Schools.

Knowledge Test: Pre- and Post-Test Scores Norton J. and I. (Max. = 47)

| | Boys | Girls | Boys and Girls |
|---|--------|--------|----------------|
| Pre-test mean | 9.32 | 8.63 | 8.91 |
| Pre-test standard deviation | 3.95 | 4.13 | 4.03 |
| Post-test mean | 30.00 | 27.31 | 28.41 |
| Post-test standard deviation | 7.35 | 8.49 | 8.08 |
| Significance of difference between pre- and post-test means | p<.001 | p<.001 | p<.001 |

Knowledge Test: Pre- and Post-Test Scores Nether Green M. (Max. = 50)

| | Boys | Girls | Boys and Girls |
|---|--------|--------|----------------|
| Pre-test mean | 13.28 | 14.30 | 13.74 |
| Pre-test standard deviation | 5.14 | 5.96 | 5.51 |
| Post-test mean | 31.63 | 32.09 | 31.84 |
| Post-test standard deviation | 7.33 | 6.64 | 6.98 |
| Significance of difference between pre- and post-test means | p<.001 | p<.001 | p<.001 |

The higher pre-test scores of Nether Green suggest a greater knowledge of content before the commencement of the Unit than Norton.⁽²⁾

(2) However it should be noted that, as indicated above, the knowledge tests used in the two trials are not strictly comparable.

An item analysis of the Nether Green pre-test scores was carried out in which the marks obtained on each question by all pupils, expressed as a percentage of the maximum marks possible, were computed. Those questions which reached a 40% criterion are listed below.

Nether Green Pre-test: Questions most familiar to pupils before start of Unit

| Question | % max marks obtained | Comments |
|---|----------------------|--|
| Two examples of occurrences which might cause someone to stop breathing | 52 | |
| How an earthworm breathes | 48 | Expressed as a multiple choice question with 4 alternatives correct answer by choice alone 25% |
| Two causes of air pollution | 62 | |
| Four main food groups | 60 | |
| Transportation of oxygen from the lungs | 43 | |
| Two harmful things in tobacco smoke | 41 | |
| Name of gas partly used up in breathing and name gas which is produced and breathed out | 68 | |

Despite this however, the Nether Green pre-test mean of 13.74 (approx. 27%) suggests that the majority of the test and hence most of the content of the unit was unfamiliar.

Differences between the Nether Green pre- and post-test scores (knowledge gain) for boys, girls, and boys and girls together were

found, as with those for Norton, to be highly statistically significant ($p < .001$).⁽³⁾

Although the results suggest a substantial knowledge gain this can only strictly be taken as suggestive of the Unit's influence and not conclusive proof of it.⁽⁴⁾ It must also be remembered that the test used was of unknown reliability and validity, although in the case of the latter its method of construction might give some confidence in its face validity. The test also relied very heavily on factual recall and there was little opportunity for exercising higher orders of thinking. Post-test scores were found to correlate with the reading comprehension scores. Correlation of 0.591 ($p < .001$), 0.672 ($p < .001$) and 0.612 ($p < .001$) were obtained for the boys, girls and (boys and girls) respectively. The corresponding correlations for the Norton trial were 0.635 ($p < .001$) 0.600 ($p < .001$) and 0.582 ($p < .001$).

(ii) Smoking behaviour: Together with the knowledge test, a questionnaire was administered both before and after the Unit. The questionnaire was also read out question by question leaving sufficient time for children to make their responses (approximately 35 minutes was required for the completion of the total questionnaire). The first part⁽⁵⁾ of this questionnaire related to smoking behaviour. Set out below are the number of children falling into certain "smoking" categories, as reported by them before and after the Unit.

-
- (3) Using t test for correlated samples. This test requires a pre- and post-test score for each pupil. There were 20 children who missed either one or both tests, thus reducing the total usable sample from 93 to 73.
 - (4) A more elaborate evaluation design would be necessary to establish this, involving control and experimental groups.
 - (5) Derived from a questionnaire used with primary age children in the Derbyshire Smoking Survey conducted a few years ago by the Dept. of Community Medicine at St. Thomas' Hospital.

| Before the Unit | | | After the Unit | | |
|--|-------------|--------------|--|-------------|--------------|
| | No. of boys | No. of girls | Category | No. of boys | No. of girls |
| Never smoked | 17 | 31 | Never smoked | 13 | 29 |
| Smoked only once | 20 | 6 | Smoked only once | 21 | 5 |
| Smoke sometimes but less than one cigarette a week | 6 | 0 | Smoke sometimes but less than one cigarette a week | 4 | 0 |
| Smokes 1-6 Cigarettes a week | 0 | 0 | Smokes 1-6 Cigarettes a week | 2 | 0 |
| Smoke more than 6 cigarettes a week | 0 | 0 | Smoke more than 6 cigarettes a week | 0 | 0 |

From the “before the Unit” figures it is seen that all of the girls and all but six of the boys claim that they have either never smoked or smoked only once. However a significantly greater proportion of boys than girls appear to have experimented with cigarettes ($p < .001$ Chi squared test).

On the whole though, the evidence would suggest that smoking is not an established behaviour for children of either sex of this age range in this school.

Comparison on a before and after basis is difficult due to children being absent for either the pre- or post-test. However in the case of a small number of children the situation reported with regard to smoking is different on the post-test to what it was on the pre-test. In the post-test one girl responded “once” whereas she was in the “never” category on the pre-test. Of the boys who responded “once” on the pre-test one responded “1-6” on the post-test and another responded “sometimes.” Of the boys who responded “never” on the pre-test one responded “1-6” on the post-test and another responded “once” on the post-test. These differences might be

taken to indicate that, at least for a small number of pupils, the Unit could have the effect of encouraging experimentation with smoking.

However they may represent nothing more than individual errors in completing the questionnaire. In support of this it should be noted that of the boys who responded “sometimes” on the pre-test, two responded “once” on the post-test.

(iii) Attitudes to smoking: The second part of the pupil questionnaire described in the previous section consisted of a list of 40 statements relating to smoking and smoking behaviour. For each of these, pupils indicated their degree of agreement or disagreement of a five-point scale. This part of the questionnaire was a slightly modified version of an instrument developed in the U.S.A.⁽⁶⁾ The questionnaire can give scores of up to 25 on each of the following separate scales.

Scale 1. Effect of smoking on health

This indicates how much the child knows about the effects of cigarette smoking on health and how much he believes of what he has learned. The average teenager has a score of 20.⁽⁷⁾

Scale 2. Non-smokers’ rights

This deals with the extent to which smoking has an effect on other people. The average teenager has a score of 17. A very high score, of 20 or more, indicates great sensitivity to how other people might feel about breathing cigarette smoke.

(6) Teenage Self Test: cigarette smoking. U.S. Dept. of Health, Education and Welfare. Although designed for teenagers it seemed to be satisfactory, when orally presented, to the pre-teen sample in the present evaluation. Modifications were limited to the occasional change of word or phrase so as to suit better the English age group concerned.

(7) Average scores are for American teenagers — there are no norms available for English children.

Scale 4. Manufactured reasons for smoking

This is concerned with making up reasons for overlooking the dangers of smoking or pretending there are circumstances where there are no dangers in smoking. The average score of teenagers is 13, indicating that most do not try to explain away the disadvantages of smoking.

Scale 5. Reasons for starting

This scale indicates why the respondent thinks children start to smoke. A high score of 20 or above indicates that the respondent considers that the reasons for starting smoking are to enhance social life. The average teenager has a score of 15.

Scale 6. Are children who smoke “bad”?

The score on this scale shows the child’s degree of agreement with the idea that children who smoke are show-offs, trouble makers, etc. The average teenager has a score of 16.

Scale 7. Feeling towards authority

This relates to the child’s feeling about parents and other people who have authority over him. The higher the score the more the pupil likes to turn to his parents for advice and support. The average score is 16.

Scale 8. Can I control my future?

This reflects the strength of feeling by the pupil in determining the kind of person he can become. A high score (22 or more) is an expression of importance to the individual of controlling his own destiny as opposed to being subject to chance or control by others. The average teenager has a very high score of 21 on this scale.

Mean scores on each of these scales for the Nether Green boys and girls both before and after the Unit are given in Appendix II. Similar data for the earlier Norton trial are also given in Appendix III. As can be

seen on both trials, before the start of the Unit boys and girls obtained high scores on “effects of smoking on health,” “non-smokers’ rights,” “feelings towards authority” and “control of future.”

Statistically significant differences between means obtained before and after the Unit were found on the following scales.

| Scale | Norton Trial | Nether Green Trial |
|-----------------------------------|-------------------------------|-------------------------------|
| Effects of smoking on health | p<.01 (boys) p<.05 (girls) | p<.001 (boys) |
| Non-smokers’ rights | p<.05 (boys) p<.05 (girls) | |
| Positive effects of smoking | p<.05 (girls) | |
| Manufactured reasons for starting | | p<.01 (boys) p<.01 (girls) |
| Reasons for starting | p<.05 (girls) | p<.01 (boys) p<.01 (girls) |
| Children who smoke are “bad” | p<.05 (girls) | |
| Control of future | p<.05 (boys) | |

These results can be interpreted in the following way:

At the end of the Unit, (a) Norton and Nether Green boys and Norton girls knew more about the effects of smoking on health (b) Norton boys and girls had become more sensitive to how other people might feel about breathing in cigarette smoke (c) Norton girls, although initially not seeing cigarettes as contributing much to a person’s enjoyment of life, had strengthened their belief somewhat that people would not smoke if they did not get something out of it (d) Nether Green boys and girls were less likely to try to explain away the disadvantages of smoking (e) Norton girls and Nether Green boys and girls had strengthened their belief that the reasons for starting to smoke are to enhance social life (f) Norton girls had become more critical of children who smoke, and (g) Norton boys had increased their belief in their ability to control their own destiny.

That the effect of the Unit is not exactly the same on the two school samples is not surprising and may be attributed to such factors as teacher and pupil characteristics, organisational differences, etc.

As indicated previously, in the absence of a control group, it is not possible unequivocally to relate attitude shifts to the influences of the Unit.

In the case of the Nether Green trial the attitude data was also analysed according to whether the pupils and their parents smoked or not.⁽⁸⁾

| Difference between Pre- and post-means of: | Scale 1 | Scale 2 | Scale 3 | Scale 4 | Scale 5 | Scale 6 | Scale 7 | Scale 8 |
|--|---------|---------|---------|----------------|---------|---------|---------|---------|
| Boys who smoke | p<.001 | | | p<.001 | | | | |
| Boys who do not Smoke | | | | | | | | |
| Girls who smoke | | | | | | | | |
| Girls who do not smoke | | | | | | | | |
| Boys whose parents smoke | p<.001 | | | p<.05 p<.01 | p<.01 | | | |
| Boys whose parents do not smoke | p<.01 | | | | | | | |
| Girls whose parents smoke | | | | | | | | |
| Girls whose parents do not smoke | | p<.05 | | p<.01 | p<.05 | | | |
| | p<.05 | | | | p<.05 | | | |

Note (a) the category “parents who smoke” refers to where either or both parents smoke.

(b) cells left blank indicate non-significance.

(8) Number of pupil smokers was obtained by combining all “smoking” categories in part I of the questionnaire. Information on parental smoking was obtained by means of a further questionnaire administered with the other after the completion of the Unit.

Although not too much should be read into this pattern of significant differences it does suggest a number of hypotheses concerned with the possible differential effects of the Unit which could be explored in further evaluation studies. In this respect it might be noted that the highest level of significance (p .001) is associated with differences on scale 1 (effects of smoking on health) for the two sub groups (“boys who smoke” and “boys whose parents smoke.” The difference is also highly significant on scale 4 (manufactured reasons for smoking) for boys who smoke. These results might suggest that the Unit has a particularly beneficial effect on boys who already smoke or on boys whose parents smoke.⁽⁹⁾

6. The appropriateness of the materials:

(i) Readability Analysis: One concern common to all members of the Sheffield group who attended the Unit workshop in the USA was the high level of reading ability which the Unit materials seemed to require. It was felt that many of the pamphlets, worksheets, accompanying notes for film strips and for microviewers, etc., were expressed in language likely to be too difficult for many of the children in the age range taking the Unit. As one adviser put it on visiting the children working on the Unit at Norton, “The literature attached to one of the stations at which I worked in connection with the use of microscopes demanded that I should have the language knowledge of a first year medical student”(!). In order to get objective evidence to support or refute this intuitive judgement a readability analysis was carried out.

The readability analysis adopted was the Cloze procedure which uses pieces of text with blanks inserted. The ability to insert the correct words in

(9) The association between smoking habits of boys (and girls) and those of their parents was investigated using the Chi squared test but was not found to be statistically significant.

the blanks is taken as- evidence of comprehension of the test. Ten passages were selected from a cross section of the reading material of the Unit, each containing 100 words together with a lead in sentence. Every tenth word was substituted with underlined blanks. Careful consideration was given to the selection of each passage in that it could be read as an entity, not as a fragment of the whole.

At Norton 53 children were present several days before the start of the Unit to attempt the ten Cloze passages and 51 to try them again several days after its conclusion. At Nether Green the corresponding numbers of children were 81 and 75. In scoring, one mark was allowed for each correct word, thus giving a maximum of ten marks for each passage.

As the readability of the material was being assessed for its instructional value, it was decided that if any child's score on a passage fell below 40% then it was considered too difficult. The analysis for both schools is shown below.

% of children at instructional level

| Passage | Before the Unit Nether Green | Before the Unit Norton | After the Unit Nether Green | After the Unit Norton | Significance of difference Nether Green | Significance of difference Norton |
|---------|---------------------------------|---------------------------|--------------------------------|--------------------------|---|---|
| A | 16.0% | 15.7% | 12.0% | 9.8% | not sig. | not sig. |
| B | 54.7% | 39.2% | 65.4% | 54.9% | not sig. | p<.01 |
| C | 77.4% | 62.7% | 85.4% | 78.4% | not sig. | p<.05 |
| D | 53.4% | 33.3% | 72.0% | 43.1% | p<.001 | p<.01 |
| E | 48.0% | 29.4% | 56.07 | 41.2% | p<.05 | not sig. |
| F | 56.0% | 45.1% | 69.4% | 51.0% | p<.001 | not sig. |
| G | 60.0% | 41.2% | 62.7% | 49.0% | not sig. | p<.02 |
| H | 18.7% | 3.9% | 45.47 | 9.8% | p<.001 | not sig. |
| I | 26.7% | 15.7% | 52.0% | 27.5% | p<.001 | p<.01 |
| J | 16.0% | 3.9% | 21.4% | 11.8% | p<.001 | not sig. |

It can be seen that in all but one passage (C) a majority of the Norton pupils found the material too difficult before the commencement of the Unit. After experience of the Unit, for all but one passage (A) there

was an increase in the proportion of pupils reaching the 40% (instructional level) criterion. For five of the passages the difference between the pre- and post-Unit assessments was statistically significant at the .05 level or better. In the case of Nether Green a majority of the pupils found the material of five of the ten passages too difficult before the commencement of the Unit. As with Norton, after the Unit, for all but passage A there was an increase in the proportion of pupils reaching instructional level. In the Nether Green sample for six of the passages pre- and post- Unit differences were statistically significant at the .001 level, for all but one.

Briefly the results suggest that there has been some significant improvement due to teaching. Many of the children, however, found the material too difficult in that their scores fell below the level which would indicate that, 'for them, the material was suitable for instructional purposes.

Further evidence on the readability demands of the passages is provided by an analysis of them using the Fry Readability Graph. This analysis is based on a determination of the number of sentences and syllables per 100 words of text and results in the assignment of a reading age level. The results, summarised below, indicate that the passages require on average a reading age of 17.

(10) Using the Wilcoxon matched pairs signed rank test.

| Passage | Sentences Per 100 words | Syllables per 100 words | Approx Grade | Reading Age |
|---------|-------------------------|-------------------------|--------------|-------------|
| A | 4.6 | 142 | 9 | 14 |
| B | 6.4 | 150 | 9 | 14 |
| C | 6.2 | 166 | 12 | 17 |
| D | 7.5 | 161 | 10 | 15 |
| E | 5.9 | 166 | 12 | 17 |
| F | 3.5 | 161 | College | 17+ |
| G | 6.2 | 180 | College | 17+ |
| H | 6.4 | 181 | College | 17+ |
| I | 5.2 | 180 | College | 17+ |
| J | 8.9 | 157 | 9 | 14 |
| Average | 6.1 | 164 | 12 | 17 |

In both schools, after the main readability exercise, a technical vocabulary test was administered. This test consisted of nine words compiled by using a table of random numbers on a list of words⁽¹¹⁾ taken from the material by a lecturer in Health Education. Every “nth” child on the register was selected so as to give ten children in all. Each of these children was individually asked the meanings of these technical words. This procedure was repeated on the second occasion. The word meanings were marked independently by two Health Education lecturers. One mark was given for a complete definition and ½ mark for an incomplete one, so giving a maximum mark possible of ten. Scores for the ten pupils in each school are given below.

(11) The ten words were: hydrocarbons, aspirin, ducts, histamine, epithelium, silicosis, pleurisy, smog and torso.

Results of Technical Vocabulary Test

| Pupil | Pre Unit score | Post Unit score |
|-------|----------------|-----------------|
| 1 | 1.50 | 1.50 |
| 2 | 1.75 | 2.75 |
| 3 | 0.75 | 0.75 |
| 4 | 1.00 | 1.25 |
| 5 | 1.50 | 3.50 |
| 6 | 1.00 | 1.75 |
| 7 | 1.50 | 1.00 |
| 8 | 0.50 | 1.25 |
| 9 | 1.75 | 1.75 |
| 10 | 1.0 | 2.25 |
| Sig. | p.05 | |

| Pupil | Pre Unit score | Post Unit score |
|-------|----------------|-----------------|
| 1 | 2.50 | 2.25 |
| 2 | 2.00 | 1.75 |
| 3 | 3.00 | 3.25 |
| 4 | 3.50 | 3.75 |
| 5 | 2.00 | 2.75 |
| 6 | 0.5 | 1.50 |
| 7 | 0.5 | 0.75 |
| 8 | 0.5 | 2.5 |
| 9 | 0.5 | 0.5 |
| 10 | 1.0 | 1.25 |
| Sig. | not sig. | |

Although for both schools there is an improvement from the pre-Unit to the post-Unit situation this is modest and reaches significance⁽¹²⁾ only for the Norton sample.

Three tentative proposals might be considered — the light of these and, more especially, the readability results. First the Unit might be limited to those children who read at instructional level in the pre-Unit assessment. Secondly more emphasis might be put on the development and use of the children's vocabulary booklet (one of the features of the Unit). Thirdly the materials might be simplified or replaced by more appropriate substitutes.

(ii) Views of the three teachers mainly involved in teaching the Unit at Nether Green: Some days after the completion of the Unit, the three teachers involved completed a short questionnaire which was designed to bring out their views on the main features of the Unit. These are summarised briefly below.

(12) Using Wilcoxon test.

(a) Ideas contained in the Unit already known by the vast majority of children: The general feeling was that the children already had some familiarity with: the body systems excluding the nervous and endocrine systems, the fact that air is essential to animal life, the causes of air pollution, mouth to mouth artificial respiration, the four food groups and the fact that the respiratory system can be affected by disease. Despite this, it was felt that there was value in covering ground already familiar to some extent, since Such knowledge provided a foundation for a more detailed and mature appreciation. The extent of prior knowledge as judged by the teachers is generally consistent with the analysis of the pre-test knowledge scores (Section 5(i)).

(b) Ideas contained in the Unit which were new to the vast majority of children: These included: animal classification, the respiratory system of humans and other creatures, the inter relationships of organs and body systems, properties of air, cells and cell division, microscopy, effects of pollution, normal and abnormal breathing needs, medical discovery and research, and diseases of the respiratory system.

It was felt that these ideas were intrinsically interesting to children of this age group and provided a sound basis for further work.

(c) Adequacy of the teaching procedures to develop these new ideas: On the whole these were felt to be adequate. In the filmstrip stations the presence of a teacher, who was able to ask pertinent questions and provide further information, improved the situation considerably. Left to themselves the children tended to view passively and did not formulate questions and look for the answers although this strategy was outlined on some of the filmstrips. The issuing of complete phase folders rather than building them up cumulatively was felt to save much time.

(d) Accommodation of the Unit into the rest of the school programme:

On the whole no difficulty was experienced. The Unit is flexible enough to make it fit the school organisation rather than the converse. However inevitably some sacrifices had to be made by other classes, i.e., use of the Hall for P.E.

(e) Extra time spent on any of the phases: This was deliberately not done, except that a small amount of time was spent, extra to schedule, on art and writing (2 - 3 hours). Had the children not done homework, e.g., writing diaries, much more time would have been needed (on average eight hours per child). , ‘

(f) Timetabling of the Unit: The timetabling over a six-week period of three half day sessions per week was felt to have been satisfactory, although two of the teachers would recommend afternoon sessions rather than morning ones. Teachers found the children difficult to motivate in the afternoon after a Unit session in the morning.

(g) Enjoyment of the Unit by the children: Children enjoyed the Unit immensely and their enthusiasm was maintained, in the main, to the end. In general they enjoyed the variety of approach and materials. In particular the highlights were: the experiments in the “station” work, the resusci - Annie model, the torso, the bodydrawing, the skeletons, the use of microscopes, the breathing experiments, the lung dissection, the preparation for the parents’ opening evening, and the outside speakers.

(h) Adequacy of materials designed for individual pupil or group use:

As indicated in (c) above, the filmstrips in many cases needed the presence and involvement of a teacher. This was also true of the science experiments, the microscope work, and the Phase IV discussion groups. The language demands of much of the material, e.g., human biology notes, some film strips, some of the books and pamphlets and also some of the phase worksheets was felt to be excessive.

(i) Suitability of the ideas and approaches for the age of the children concerned: On the whole these were suitable. Difficult parts in, say, the work on the body systems and lung diseases, served to stretch the intelligent child and did not cause loss of motivation in the less able. In some cases the ideas were sound but the material provided was inappropriate. Some of the ideas in microscopy and cell structure could have been too difficult and so particular attention was given to the explanation of these. “Quackery” and “Glue-sniffing” were omitted as they were considered irrelevant to the situation in Britain.

(j) Quality and appropriateness of the Unit materials: Apart from the inappropriate language level already mentioned the majority of the materials were viable when mediated and reinforced by the teacher. Specific reactions were as follows:

| | | |
|---------------------------------|---|--|
| Torso models, skeletons | – | excellent |
| Films | – | generally good but some obviously intended for older age groups |
| Filmstrips | – | same, in general, as for the films, teacher assistance particularly needed |
| Worksheets and folder Materials | – | generally inappropriate and not very good |
| Self-evaluation sheets | – | a good idea but questions could be improved |
| Books | – | quality variable |
| Poster and charts | – | useful supplementary material |
| Colouring books | – | enjoyable and informative |
| Pamphlets | – | informative; children wanted to take them home. |

The teacher was concerned to raise the question of the indoctrination and campaigning contained in the anti-smoking pamphlets and leaflets.

(k) Effectiveness of the outside “experts”: It was generally felt that good outside experts could provide something extra which the teacher could not easily equal. Children appreciated the stimulation and authority of the expert.

(l) Effectiveness of the “stations” approach: This is a very effective addition to the methodology of the middle school. However, it is essential to have (a) materials and tasks which are really understood by children as the teacher cannot spend much time with each group (b) good group leaders (c) tasks should be appropriate to time allotted to avoid boredom or frustration, (d) a variety of tasks, i.e., not too many filmstrips in one session. In general children seemed to enjoy stations because they were mobile and in “control.”

(m) Time required for organisation: A considerable amount of organisation was required both between sessions and between phases although there was a tendency to plan the complete Unit in advance because it was felt that there would not be time once the Unit was underway.

(n) Preparation for the Unit: Generally more time was put in preparing for the Unit than for a normal project or theme but this was, in the main, because of the larger numbers of children involved which demanded, amongst other things, the triplication of equipment, etc. The Head estimated that the team spent 60 hours out of school time in preparation before the Unit together with 18 hours and additional time individually when it was underway,

(o) Teacher enjoyment: The team thoroughly enjoyed the experience of working the Unit and particularly appreciated: being involved with outside experts, the enthusiasm of the children, and working with a team of colleagues.

7. Further comments on some distinctive features of the Unit:

(i) The use of the “stations”: A particularly distinctive feature of the learning strategy of the project is that of the “stations.” This involves a rotation of children in small groups around a number of learning situations or “stations.” At such stations children work individually or together on exercises, experiments, AVA materials and equipment, etc. Although small group learning situations are not uncommon in the English primary school the scheduled movement of children in small intact groups around several learning situations in a relatively short period of time is less so. The views of the Nether Green teachers to the stations approach has already been summarised (6ii(l)). In addition, the external evaluators noted that often there was insufficient time to complete work at the stations. This was particularly apparent in the early filmstrip stations where the time allotted allowed little more than a turning on of frames accompanied by the group leader reading mechanically from the captions. Interaction between pupils was limited and, in the words of one observer, “the stations had a monastic air to them.” Stations rely heavily on the pedagogic and control skills of the group leaders and although group leaders were briefed in advance they were not always capable of effectively fulfilling a teaching role. The presence and support of teachers during stations is crucial. At Nether Green the availability of the displaced M3 teachers made it more possible for this to occur, even so, staff coverage was often uneven.

If the Unit is to be disseminated to further schools then any in-service programme envisaged should give particular emphasis to the organisational and pedagogic demands of the stations approach.

It should however be noted that as the Unit progressed both the organisation and the children’s way of working improved. Described below is an

account, based on a more rigorous observational approach, of the way in which groups operated at a relatively mature stage of the Unit's development.

Monitoring pupil behaviour at stations:

At Nether Green the number of stations operating at any one session was six. Groups of approximately six children would spend 20 minutes at each station. In an attempt to monitor pupil behaviour in the stations observations were made using the Pupil Record.⁽¹³⁾

The Pupil Record is designed for use in informal primary school classrooms where the children operate in small groups and the teacher tends to talk privately to individual children and small groups rather than to the whole class. The purpose of the Pupil Record is to build up a picture of pupil activity by focussing on children one at a time in a pre-arranged arbitrary order. The observer records a sample only of the target child's activity by coding what the child is doing at the precise time of pre-recorded time signals. The observer notes what the child is doing every 25 seconds on a specially prepared individual record sheet. After coding at 5 signals the observer moves on to the next child and repeats the procedure. In a 20 minute work period therefore it is possible to observe the equivalent of 9/10 individual pupils. Since, however, each individual observation involves others then they are more comprehensive than they might appear to be at first glance.

In the investigation two observational approaches were adopted:

- (a) One in which the observer moved with one particular group from station to station, i.e., the group was held constant and the station varied.

(13) The Pupil Record, SSRC Project, University of Leicester, School of Education, 1974.

- (b) One in which the observer remained at one particular station observing different groups as they passed through that station, i.e., the station was held constant and the group varied.

From the two approaches adopted interesting results were obtained:

Although the pupil groups were informally arranged and pupils were free to interact with one another, after an initial period of verbal interaction (largely work oriented) pupils settled down readily to their assignments and tended to ignore occasional attempts to initiate further interaction. On average pupils spent between $\frac{1}{4}$ and $\frac{1}{3}$ of the total station time in verbal interaction and for the major part of the time they appeared to be involved in independent work. One is tempted to suggest that the material and/or the approach were particularly appealing to the pupils and hence the work involvement. On the other hand it has to be recognised that this might have been the result of good habits of learning developed earlier in the school. Hopefully one might suggest all three possibilities operating.

In the groups observed pupil interaction tended to be verbal in nature and limited to their own station and to their own sex. It was interesting and encouraging to note that different pupils tended to emerge as leaders at the different stations. Apparently the different materials and demands of the various stations had particular individual appeal and encouraged different individuals according to the station. Overall the results are encouraging. In an informal situation these pupils indicated that they were capable of resisting distraction and achieving a large measure of independent work. If it can be shown that actual attainment is sound then clearly the overall project approach is an efficient teaching/learning strategy with these children.

(ii) The use of outside “experts”: The introduction of outsiders into the learning environment of the school is of course not new. However in this Unit it is the extent of such involvement which is. During the Unit some ten or so people were invited in to teach a particular aspect. This type of involvement was motivating to both teachers and pupils. In the main they did provide a most valuable contribution. It is important however that such external contributors are very carefully briefed in terms of how their contribution fits both into the total Unit and the conceptual and experiential background of the children. Careful planning of the use of visual aids is also necessary to ensure that the contributors are not, as is all too common, trapped into showing aids in an unsuitable room. If the Unit were to be adopted further the provision of a “bank” of such resource persons would need to be established.

(iii) The science content of the Unit: The previous evaluation report (ppl2 - 13) provided a critique of this aspect of the Unit. The experience of the Unit at Nether Green does not suggest any major modification of that critique. There are concepts in the Unit, e.g., air pressure which are difficult for children of this age group and many of the experiments are too advanced. However pupils in schools with a developed tradition of science throughout the school may well be able to accommodate successfully to this aspect of the Unit. The opportunity provided for practical and experimental work was very great, and perhaps the fact that the recording and formulation of results was often difficult to accomplish, particularly within the time available, should not be too major a concern. A perhaps more serious feature was the lack of time available to allow the discussion of experiments and their findings.

(iv) Resource concentration: Another distinctive feature of the Unit is the high level of resource provision. Few middle school projects have

had such a quantity and variety of resources lavished on them as this health Unit. The resources available were clearly an important element in the maintenance of pupil motivation. However many of the books, pamphlets and reference materials were sometimes little used because of limited time availability and the need to pass quickly from one activity to another.

There is undoubtedly too much material available to be covered in the time which can be legitimately allotted to a Unit of this type. The attempt to do so meant that consolidation, and follow up of the work was often less than would have been liked.

8. Conclusions

The purpose of this report is to provide evidence drawn from a number of sources so that decisions can be taken about (a) the feasibility, effectiveness and educational value of the Berkeley Lung Unit (b) whether the Unit should be disseminated further in this or other Authorities.

Such decisions are not properly taken by the evaluator but by others, principally the relevant officers of the LEA and Health Education Council. The evaluator's test is one of furnishing the evidence, raising relevant questions and perhaps providing some framework from which decisions can emerge.

From the evaluation it can be said that the effect of the Unit is known, in a little detail, on two schools. These schools were selected by criteria other than those to satisfy an evaluation design. They were selected, in the main, because it was felt that they would be keen to participate in and able to give full commitment to the Unit. They are then not necessarily typical or representative of schools either in Sheffield or other Authorities. It is therefore difficult to generalise the findings from these two schools to others. Comparison between the

two schools themselves is also difficult. Although alike in having a firm policy towards health education, they differ considerably in the catchment areas which they serve and the type of pupils they receive. Added to these, are also the differences existing between the teachers involved and their method of organising the Unit in the two schools.

It may be said that this Unit has been tried out under very favourable conditions. The classes provided by the two schools contained pupils roughly average and above average attainment. The social class composition of the children from both schools considered together ranged from good working class to professional class. The staff involved in teaching the project had attended a prestigious in-service training course in the USA and were, for this and other reasons, highly committed to making the Unit a success.

The main findings of the two evaluation trials may be summarised as follows:

- (i) For schools, like the two concerned in the trial, which might normally provide a substantial science/environmental project in the M3 or J4 year, and which also have health education firmly established in the curriculum, this Unit provides an educationally acceptable alternative.
- (ii) The Unit can be organised successfully in at least two ways:
either over a three and a half week period for five mornings a week or over six weeks for three mornings a week.
- (iii) The Unit allows an exceptionally high concentration of learning resources which pupils find both stimulating or challenging.
- (iv) The working of the Unit with its emphasis on individual and group work, learning by direct experience and enquiry is consistent with the best primary school methods. The stations approach is a

particularly distinctive feature of the Unit and is one which might usefully be adopted more generally in the primary curriculum. It does however require very careful preparation and would probably, in any in-service training programme envisaged, require rather more emphasis on its methodology than was perhaps given on the American training course.

- (v) The children engaged in the Unit showed above average commitment and involvement. Enthusiasm for the project was maintained by almost all pupils and there was little evidence of flagging towards the end.
- (vi) The Unit has a pace which is unusual in primary school projects. The children do move quickly from experience to experience but the question must be asked whether such activity was sometimes a little too frenetic. In the time allocated to the Unit it was often difficult to ensure consolidation and reinforcement of learning through writing and perhaps, more important, through discussion. Teachers also found that time did not allow them to achieve either the standards of display of work or the detail of recording pupil progress which they would normally expect. There is perhaps in this Unit an attempt to cover too much in too short a time.
- (vii) Undoubtedly much of the basic textual material in the Unit demands too high a reading level for this age group, approaching as it sometimes does, college level. Although this could, to some extent, be compensated for by teaching, it must be remembered that much of this material is designed to be used by the pupils themselves without the mediation of the teacher.
- (viii) Little of the content was familiar to pupils before the Unit (pre-test mean scores of 19% and 27% respectively for Norton

(boys and girls) and Nether Green (boys and girls)). Post-Unit scores of 60% and 63% represent a highly statistically significant and substantial learning gain which it is reasonable to attribute to the effect of the Unit.

- (ix) Although both boys and girls had an initial high awareness of the effects of cigarette smoking on health that was further increased after completion of the Unit.
- (x) There was some indication of a shift of attitude's concerning smoking and smoking behaviour in the desired direction. The pattern of significant results between the two samples and between the two sexes may indicate that the impact of the Unit on attitudes varies to some extent with pupil type.⁽¹⁴⁾
- (xi) For both samples the number of children who smoke or have smoked is low indicating that, at this age, smoking is not a problem in these schools. Given this, the presentation of the Unit may be a wise preventative measure for the future. Despite the low incidence of smoking, a greater proportion of boys than girls, at least in Nether Green, have experimented with smoking.

9. Dissemination of the future:

In the light of the evidence provided by this evaluation two major questions arise:

1. Can it be assumed that the Unit as it stands and backed up by a locally based in-service programme is a viable curriculum package for the general run of Sheffield (or other LEA) primary/middle schools?

If not, for what sorts and numbers of schools might it be viable.

(14) Substantial changes in attitudes or smoking behaviour either immediate or long term would not be claimed, on the basis of a single Unit of the total project, by the American project organisers.

2. If the Unit is not a viable curriculum package as it stands does it contain a sufficiently distinctive content and methodology⁽¹⁵⁾ to justify modification/adaptation so as to achieve viability.⁽¹⁶⁾

It is in answering these questions that the future of the Unit will be determined.

(15) Distinctive here implies comparison with other materials available covering a similar area, e.g.. Schools Council Health Education 5-13.

(16) Here the resource implications of modification followed by trials of the modified version have to be considered.

APPENDIX B

INFORMATION ON SMOKING IN SWEDISH SCHOOLS

by Paul Nordgren

A few years ago an advisory committee to the Swedish National Board of Health and Welfare proposed a 25-year program against smoking. The program, which has attracted a great deal of attention internationally, was aimed at creating a non-smoking society. By means of extensive information activities at maternity and childwelfare clinics, and later at the pre-school and school, the generation born in 1975 was to be ensured a childhood and adolescence as free from smoking as possible. On the completion of the 25-year program smoking should have decreased to one-fifth of the level of the 1970's. How does information on smoking function in Swedish schools today%

THE AIM OF SCHOOLWORK

Teaching in Swedish schools is governed to a large extent by the content of the curricula, which are drawn up by the government authorities. The curriculum for the comprehensive school now in force dates from 1969 and has the following to say about teaching on smoking:

“Teaching on alcohol, drugs and tobacco has the task of giving the pupils the necessary conditions for independently and responsibly coming to a decision regarding their own consumption, both as a matter of principle and in concrete situations involving choice.

The school must clearly emphasize the positive value of completely refraining from the use of alcohol and tobacco particularly during childhood and adolescence.

Teaching should ... be based on scientifically established facts and give as comprehensive information as possible on the effects of smoking from a physiological, psychological, social and financial point of view as well as on the risks of addiction and the warning signals.”

The curriculum also has a special supplement which deals in more detail with teaching on alcohol, drugs and tobacco. This supplement says that:

“In the general part of the curriculum alcohol, drugs and tobacco are included as basic elements in a number of subjects.

... It has often been stated that because of common background variables drug abuse is linked to alcohol abuse and smoking, and that anyone who uses or abuses alcohol also smokes as a general rule.

But dissimilarities in the use of alcohol, drugs and tobacco may also be observed. Differences in the risk of addiction, the nature and degree of medically and socially harmful effects, tradition and legislation must consequently be studied. It is therefore advisable that part of the subject matter takes the form of separate instruction on alcohol, drugs and tobacco respectively, while other parts of the subject matter may very well be dealt with jointly.

As previously indicated, the school's teaching on alcohol, drugs and tobacco is not only aimed at giving the pupils a knowledge of the facts, but also particularly at developing certain attitudes and establishing patterns of behaviour.

Teaching on alcohol, drugs and tobacco should occur at all levels and in many different subjects, and must therefore be carefully planned so that the material is distributed and repeated in an appropriate way.

Most children come into contact at an early age in various ways with the use of alcohol and tobacco . . . As a rule they have no personal experience of the use of addictive substances, but investigations carried out indicate that pupils at the junior level do not live in isolation in this respect either . . .

Against this background it is important that the issues of alcohol, drugs and tobacco are included in the teaching from as early as the first school year, and that the teaching is later gradually expanded.”

Last year the National Board of Education submitted a proposal for an amendment to the comprehensive school curriculum. This proposal is not aimed at any major radical change in the status and direction of teaching on smoking. In other contexts, however, the education authorities have expressed views, which indicate a slight shift in their attitude towards teaching on smoking. It has been stated that it is not always appropriate to link up teaching on smoking with teaching on alcohol and drugs. The problem of smoking is primarily a health issue, and it is therefore often more natural to link up teaching on smoking with general health matters, e.g., diet and exercise.

WHAT HAPPENS IN REALITY?

The teaching actually going on in Swedish schools does not, of course, always manage to live up to the curriculum's aims. But the education authorities have made great efforts indeed to take the curriculum's ideas out to the teacher in the classroom, e.g., by producing special in-service training material on teaching on alcohol, drugs and smoking. Perhaps the principal

effect of the curriculum has been the establishment of a standard for educational publishers. As every teacher knows, the content of teaching materials generally has a much more direct effect on teaching than the discussions of principle in the curriculum.

Ordinary Teaching

During the last ten years there has consequently been a great intensification in the teaching on smoking in Swedish schools. Even at the junior level, i.e., 7-9 years of age, most Swedish pupils come across some simple statistics on smoking in the teaching.- At this stage the content of the teaching is governed to a large extent by the pupils' spontaneous questions, but many teaching materials for the junior level deal with smoking in relative detail. Many educational publishers and bodies dealing with information on smoking, e.g., the National Smoking and Health Association (NTS) and the Swedish Cancer Society, have also produced special information material on smoking for the junior level.

At the middle level, 10-13 years of age, teaching on smoking occurs in most cases in grade 5 and to an even greater extent in grade 6. This is related to the fact that the human body and its functions are studied regularly in grade 6. But it is also common knowledge that the majority of pupils, who start smoking, do so in connection with the transition from the middle to the senior level, i.e., in grades 6-7.

At the middle level all pupils therefore receive information on the harmful effects of smoking. There is a good supply of various types of teaching materials on smoking specially designed for grade 6.

In view of the fact that, as previously mentioned, many pupils start smoking at this age, teaching on smoking at the senior level is often included as early as grade 7. Teenage health issues, in which smoking has an obvious place, are discussed in this grade. In grade 9 as well teaching on smoking is included in connection with the discussion of the human body. At the

senior level, i.e., 14-16 years of age, where the teaching is divided into subjects to a greater extent than at the junior and middle levels, an effort is made to distribute information on smoking over as many subjects as possible, so that various aspects of smoking can be discussed. Teaching on smoking has an obvious place in many subjects. The subject civics would, for example, be incomplete without these elements since smoking is attracting increasing attention in Swedish society. Several psychological processes can be illustrated with the help of teaching on smoking, e.g., the group's influence on the individual's tendency to suppress home truths, the way in which the individual's behaviour is influenced by the mass media, or toughness as an idea.

Everyday psychology touches upon all the subjects which impart a knowledge of human nature, e.g., Swedish, civics, religious knowledge, history, drawing, art, music. Since the majority of pupils are probably aware of the economic importance of smoking both for the individual and society, there is an obvious link with mathematics. Smoking is an example of carbonization and therefore an application of part of the chemistry course. In addition it is possible to link up with discussions on gas diffusion, the effects of various solvents and to sections of the course on carbon monoxide, carbon dioxide and other poisonous substances. The medical and biological consequences of smoking as well as questions of internal and external hygiene and environmental points of view provide an obvious link with the subjects biology, gymnastics and domestic science.

. . . and special drives

The everyday teaching and the ordinary teacher's work form the basis of the anti-smoking activities of Swedish schools. This does not, of course, prevent the organization of special anti-smoking campaigns and days as well. Outside experts, e.g., advisers from NTS, may also take part in the school-work as a complement to the teacher's work. Such special campaigns are

particularly common in grades 6 and 7. The following short report from a small town in Central Sweden last year may perhaps give an idea of how such a campaign may be set up.

“For the last six weeks we have had an anti-smoking campaign at a school in Atvidaberg. The idea came into being at a staff meeting: Why should we merely chase smokers? Why don't we try and do something positive and amusing instead, something which can involve the pupils? No sooner said than done. We set to work.

A morning assembly was set aside for information activities. The school doctor and the biology teacher gave information in a factual and in places a humorous way on the dangers of smoking. Then a number of activities were announced. Who can make the best anti-smoking play, which is instructive and entertaining? Who can write anti-smoking songs? Who can organize a quiz on smoking issues for the school's pupils?

Six weeks of seething activity went by. Hundreds of drawings ‘streamed in — serious, warning and amusing ones. We almost papered the hall with them. What was to be done with the rest? Then we hit upon the idea of contacting representatives of various workplaces to see whether they would like any. And this is how it came about that our drawings are now hanging at workplaces in the local community, in banks, at the health centre and at the dentist's.

The music teacher had a busy time lending all the song-writers a hand. Each day new songs turned up, and at the morning assembly on the final day there were about 40 pupils on the stage, who entertained their schoolfellows by performing all sorts of gags and dance-steps in small groups. Class 8f had written an amusing play about a meeting where a poor secretary overcome by smoke had to put on a gas mask. Class 9b had organized a quiz with rather tricky alternative questions. The school nurse invited pupils, who wanted to give up smoking, to go to her for help in the form of counselling, a register where the number of cigarettes would be entered and gradually reduced, medical help, etc. And how pleased we were when we saw that many came and wanted to give up smoking. At the moment we are keeping our fingers crossed for them and hope that they will manage to do so. We achieved our aim of campaigning by activating the pupils, and at the same time both the pupils and we had great fun together, which was probably just as important.”

HELP WITH GIVING UP SMOKING

At the junior and middle levels the pupils are forbidden from smoking in the school grounds. At the senior level the situation varies from school to school. Sometimes smoking is prohibited, sometimes it is permitted within a particular area of the playground. But even where the pupils are allowed to smoke an attempt is made in various ways to create conditions which may help them to give up smoking.

At the junior and middle levels habitual smoking is practically only found in pupils, who also have other problems. In other words they are almost automatically the object of efforts by the school nurse, psychologist or welfare officer. But the school welfare staff is involved in helping pupils with smoking problems at the senior level as well, and it often plays an active part in the anti-smoking treatment activities carried on in some schools. In Stockholm, for example, group anti-smoking treatment has been in progress for a couple of years. The education authority issues a proposal for activities with the following organization to the various schools.

I. Planning meeting:

At the school where work is to start a meeting is arranged between representatives of the staff and pupils of the school and some members of the education authority's central executive committee.

At this meeting the work is planned with reference to the school's special resources and needs.

Morning assemblies, plays, exhibitions, etc., which may arouse interest and serve to involve the school's pupils and staff in the work, are scheduled.

The co-ordination and concentration of the teaching is discussed.

An attempt is made to find willing and suitable supervisors for those who want to give up smoking.

A schedule is fixed for carrying out the work.

II. Study day for the school's staff and some representatives of the pupils and parents:

1. Factual information on smoking and its effects with slides and an opportunity for questions. A specialist may be called in for this part.
2. A film which may give rise to emotional involvement and discussion.
3. The continued work at the school.

The school staff received information on what is entailed in giving up smoking in a group and is offered the opportunity of taking part in such a group. Teachers and pupils also have an opportunity of choosing material among brochures and posters, and borrowing films and slides before planning lessons and other activities.

III. Topic day for the pupils:

1. Information on the effects of smoking.
2. The same film as on the study day and at the parents' meeting.
3. Presentation of the continued work at the school with the opportunity of giving up smoking in a group, names of supervisors for those who want to give up smoking, etc.
4. Group discussion.

Straight after the film the pupils discuss the film for one period. Later in the day there is group discussion on the situation in the pupils' own school, the changes they would like to make, etc.

After the topic day applications are received from pupils, who want to give up smoking in a group.

IV. Parents' meeting:

The school usually invites the parents to a meeting.

Information and film show as on the teachers' study day.

The continued work at the school is outlined briefly, and the parents are offered help in the form of group anti-smoking treatment.

V. Group anti-smoking treatment:

Supervisors for those who want to give up smoking are selected and given a basic training before the topic day.

Parallel to the work in the schools, courses for future supervisors for those who want to give up smoking take place in cooperation with the adult education associations."

METHODICAL DEVELOPMENT WORK

In other areas as well methodical development work is in progress in the school's activities to decrease smoking. As an example mention may be made of experiments in which senior level pupils, who have been given a thorough training in the problem of smoking, act as tutors and discussion leaders for pupils at the middle level thus supplementing the formal teaching. In a project at the Institute of Education, University of Goteborg, the process of starting smoking has been studied from a behaviourist standpoint. The investigation indicates the importance of talks and discussions on the smoking issue in order to increase the pupils' awareness of what influences

their own smoking behaviour and that of others. Improvised role play and other forms of dramatic activity are recommended as a method of involving the pupils and facilitating their insight into different ways of reasoning and acting regarding smoking.

WHAT IS HAPPENING TO SMOKING HABITS?

Since 1971 the smoking habits of Swedish pupils have been charted in large-scale surveys carried out annually by the National Board of Education. These surveys show the following trend.

Percentage of smokers in the comprehensive school:

| | At 13 years of age | | At 16 years of age | |
|------|--------------------|-------|--------------------|-------|
| | Boys | Girls | Boys | Girls |
| 1971 | 14 | 16 | 41 | 47 |
| 1972 | 10 | 12 | 35 | 47 |
| 1973 | 10 | 10 | 31 | 45 |
| 1974 | 10 | 12 | 31 | 45 |
| 1975 | 12 | 13 | 32 | 45 |
| 1976 | 11 | 12 | 27 | 40 |
| 1977 | 9 | 11 | 25 | 40 |
| 1978 | 10 | 10 | 25 | 38 |

It should be noted that those classified here as “smokers” are those who answered the question “Do you smoke?” in the affirmative. In other words the category includes both habitual smokers and occasional smokers.

The majority of the youngest smokers show a relatively low consumption (in 1976 ca 557, smoked a maximum of 6 cigarettes per day), while about two-thirds of the 16-year old smokers reported a maximum of 10 cigarettes. The decrease in the percentage of boys who smoke should be seen against the background of a 5% per annum increase in the consumption of snuff in recent years in Sweden.

PROMISING PROSPECTS

But despite this the last few years’ statistics on smoking habits for Swedish schools show a promising trend towards a decrease in smoking. Obviously this cannot solely be due to the teaching. During the last few

years Sweden has taken several measures to decrease smoking (warning texts and declaration of contents on cigarette packets, restrictions on tobacco advertising, increased information on smoking, etc.). The adult population has developed a considerably more negative attitude towards smoking.

But it is equally obvious that schools have played a part in this pleasing trend. A purposeful campaign yields results. Smoking habits can be changed. Schools have begun to work for a decrease in smoking, and there are fewer smokers among our pupils.

APPENDIX C

VALUE CLARIFICATION - A SHORT EXPLANATION

Since the term Value Clarification is mentioned a number of times in this report it might be useful to elaborate slightly on what is meant by it in this context. According to Rath, Harmin and Simon¹ (1966) values are clarified when choices are made freely from among alternatives after thoughtful consideration of each alternative. A clarified value is also cherished, affirmed in public and acted upon repeatedly. Value clarifying strategies are short teaching techniques employed in the class room to assist the individual with this process. These techniques are initiated by the teacher as opportune moments occur.

Swisher states that one of the problems that presently exists is the widespread confusion between the concepts of value clarification and value teaching. By its nature the process of value clarification indicates no preference for any particular set of values. The concept of value teaching appears to be an emphasis on interpersonal skills and mental health, which has very little to do with clarifying values. Both of these approaches hold a great deal of promise but it is extremely important to make a distinction between them. The latter approach lists a specific set of mental outcomes, and for that reason is product oriented; whereas the goal of value clarification is to expose individuals to a process through which their own personal values will be clarified, a fuller discussion of the question of Values Clarification can be found in the article "Values Clarification" by Cathy Cole.²

¹ Rath, L., Harwin, M., and Simon, S., Values and Teaching, Columbus, Ohio Charles E. Merrill Publishing Company, 1966.

² Cole, Cathy, "Value Clarification" in Capsules, The Student Association for the Study of Hallucinogens, Inc. (STASH), 118 South Bedford Street, Madison, Wisconsin, Vol. 7, No. 6, Nov. - Dec. 1975.

APPENDIX I

The Day by Day Organisation of the Unit

Brief notes based on the evaluator's diaries. These should be read alongside the Unit phase booklets.

Note The symbol represents the rotation of groups.

| Date | Phase | Organisation and Activities | Changes in Recommended Unit Treatment | Difficulties Encountered | Suggestions for Improvement |
|--------------------------------|--------------|--|---------------------------------------|---|---|
| 1.3.76 9.15 am -11.55 am | Introduction | <u>All pupils</u> Introduction to Unit, description of Unit organisation, "What's in the Box?" Group A Film "Breath of Life" Group B Discussion: Respiratory system Then work in separate classes; creative writing including description of mouth to mouth resuscitation (2 classes), poster work (one class) <u>All pupils</u> Opening the Box. | | Insufficient time for most children to complete | |
| 2.3.76 9.30 am -11.55 am | Introduction | Four groups formed from sub divisions of A and B each into two. The groups rotate through the following activities. <u>Resuscitation</u> (Mr. Booth) all children had trial on dummy. <u>Resusci Annie Model</u> <u>Animal Study</u> <u>What stops breathing</u> | | | |
| 4.3.76 9.30 am -11.55 am | Introduction | <u>Group A</u> Film "Animals breathe in many ways," follow up questionnaire and discussion of answer. Introduction to indicators. Indicator experiments (effect of CO ₂) in | | Exhaled air still contains CO ₂ , film not clear on this but (cont'd.) | Dilution of thymol blue (Group B) will give more rapid colour change. |

2.

| Date | Phase | Organisation and Activities | Changes in Recommended Unit Treatment | Difficulties Encountered | Suggestions for Improvement |
|------|-------|---|---|---|---|
| | | <p>3 groups: Group 1 - phenolphthalein, Group 2 - thymolblue. Group 3 - limewater. Teacher summary demonstrates results from all 3 groups. Children write up results.</p> <p><u>Group B</u> (Mr. Holdford) Teacher demonstrations: effect of exhaled CO₂ on thymol blue, showing that a mouse exhales CO₂, and that a locust uses oxygen.</p> <p>How animals breathe (examples shown on slides).</p> | | <p>clarified by teacher</p> <p>Mechanism of gill operations but clarified by teacher. Writing "formal" conclusions to experiments.</p> <p>Insufficient time to develop how animals breathe.</p> | <p>In Group A, for the individual indicator expts, provide one instruction sheet per pupil.</p> |
| | I | <p><u>Group A</u> Film "About the Human Body" – six body systems covered. Follow up by Dr. Greenwood showing stethoscope and specimens (rib cage, skull, leg bones, arm bones, etc.).</p> <p><u>Group B</u> Subdivided into two, one with Mrs. Jones and the other with Mrs. Wild. Use of O/H transparencies (Milliken Publishing Co.) to demonstrate the 9 body systems.</p> <p><u>All pupils</u> in Hall for body drawing in pairs.</p> | <p>Demonstration of a German produced plastigraph (body outline and stick on organs).</p> | <p>Covering of the systems sketchy but total <u>project</u> assumes their reinforcement in other Units.</p> | <p>Use the "body" plastigraph as a summary of or preview to the body outline exercise.</p> |

3.

| Date | Phase | Organisation and Activities | Changes in Recommended Unit Treatment | Difficulties Encountered | Suggestions for Improvement | | | | | | | | | | | | |
|--------------------------------|------------------|--|---------------------------------------|--------------------------|-----------------------------|------|----------|----------|----------|------|----------|--|----------|------|---|--|---|
| 9.3.76 9.30 am -11.50 am | I | <p><u>Film</u> "Circulatory System" then children write short account of what happens to the air in the body.</p> <p><u>Stations</u></p> <ol style="list-style-type: none"> 1. muscular system (filmstrip) 2. torso model - placement of organs, completion of worksheet 3. skeleton - completion of worksheet 4. human biology - slides 5. nervous system (filmstrip) completion of worksheet 6. digestive system (filmstrip) completion of worksheet <p>3 stations duplicated in Hall and Library. The other 3 duplicated in two classrooms. Film shown in the third classroom. The 3 classes rotate as below.</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 33%;"><u>Class M3D</u></td> <td style="text-align: center; width: 33%;"><u>Class M3B</u></td> <td style="text-align: center; width: 33%;"><u>Class M36/H</u></td> </tr> <tr> <td style="text-align: center;">Film</td> <td style="text-align: center;">Stations</td> <td style="text-align: center;">Stations</td> </tr> <tr> <td style="text-align: center;">Stations</td> <td style="text-align: center;">Film</td> <td style="text-align: center;">Stations</td> </tr> <tr> <td></td> <td style="text-align: center;">Stations</td> <td style="text-align: center;">Film</td> </tr> </table> | <u>Class M3D</u> | <u>Class M3B</u> | <u>Class M36/H</u> | Film | Stations | Stations | Stations | Film | Stations | | Stations | Film | <p>Film may not be a Unit recommended one.</p> <p>Nurse's tape for torso station not used.</p> <p>For filmstrip stations only one filmstrip used at each station rather than 3 (!).</p> | <p>Complexity of the circulatory systems difficult to comprehend. Insufficient time to complete work at stations. Filmstrips too difficult (partic. one on nervous system) Pupil commentators sometimes difficult to hear.</p> | <p>Reduction perhaps in the number of stations and also the amount covered in a station, eg, reduce no. of slides (station 4) sample frames rather than show whole filmstrip(?)</p> |
| <u>Class M3D</u> | <u>Class M3B</u> | <u>Class M36/H</u> | | | | | | | | | | | | | | | |
| Film | Stations | Stations | | | | | | | | | | | | | | | |
| Stations | Film | Stations | | | | | | | | | | | | | | | |
| | Stations | Film | | | | | | | | | | | | | | | |

4.

| Date | Phase | Organisation and Activities | Changes in Recommended Unit Treatment | Difficulties encountered | Suggestions for Improvement |
|---------------------------------|-------|---|--|---|--|
| 11.3.76 9.30 am -11.55 am | I | <p><u>Group A</u> Film "That they may live"</p> <p><u>Group B</u> Filmstrips on skeletal system and respiratory system shown by teachers</p> <p><u>Class groups</u> Completion of phase I worksheets, self evaluation sheet, vocabulary book and (one group) "thank you" letters to visiting speakers.</p> | Staff presentation of films trips – better than children showing them in a station | <p>Not quite enough time for discussion on the two filmstrips</p> <p>P.11 diagram of torso caused problems.</p> <p>Worksheets too difficult for this age group – too many technical terms involved at once.</p> | <p>Film covers much of that in "Breath of Life" - is it therefore needed? More time needed to do more on worksheets at each station rather than filling in on a block later as done here.</p> <p>Worksheets need redesigning</p> |
| | II | <p><u>All pupils</u> Comment on need to keep up diary work. Phase II briefing</p> <p>Groups (1,2), (3,4), (5,6) rotate amongst the film and stations.</p> <p><u>Film</u> "Pastfinders."</p> <p><u>Stations</u> 6 air expts. set up in each room. Some groups do 3 stations, others do 4 (some expts being longer than others). Of the 6 expts two concerned with air exerting pressure, two with where air is found, one with air occupying space and one with lung capacity.</p> | Use of the film "Pastfinders" (particularly effective). | <p>Egg in bottle expt did not work.</p> <p>Difs. Understanding concept of air pressure (eg tube & coloured water expt & card & glass expt-results attributed to suction/vacuum!)</p> <p>Some chn. Had diff. Recording observations and formulating conclusions.</p> | Some time needed for discussing results of expts. Perhaps reduce no. of expts (some are duplicated anyway). |

5.

| Date | Phase | Organisation and Activities | Changes in Recommended Unit Treatment | Difficulties Encountered | Suggestions for Improvement |
|---------------------------------|-------|---|---|---|--|
| 16.3.76 9.30 am -11.55 am | II | <p><u>Film</u> (Groups 1, 2, 3) "Sheffield City of Clean Air" and slides (Mr. Maule)</p> <p><u>Stations</u> (Groups 4, 5, 6)</p> <ol style="list-style-type: none"> 1. Smoking machines 2. Air - Pure or Polluted (Filmstrip and tape) 3. Burning expts. 4. Smoking and Health (Filmstrip and viewers) 5. History of Tobacco (Filmstrip and tape) 6. Colouring books <p>For filmstrip stations two groups work together, materials duplicated for other stations.</p> | Use of the film "Sheffield City of Clean Air" | <p>Not sufficient time for Mr. Maule in the first session.</p> <p>Booklet "Smoking and Health" too difficult</p> | <p>Slides might be missed out together with some aspects covered in the talk (eg, details of electric arc furnace!)</p> <p>could make tape to accompany the slides rather than use the booklet</p> |
| 18.3.76 9.30 am -11.55 am | II | <p><u>Group A</u> Film "The Smoking Machine"</p> <p><u>Group B</u> Bob Newhart and Tom Lehrer tapes</p> <p><u>All pupils</u> work in station groups-continuation and completion of stations begun on 16.3.76.</p> | Use of the Lehrer tape | <p>Insufficient time for discussion after the film. Little time for use to be made of the Pollution pamphlets</p> <p>Staff spread as widely as possible but many practical stations still child organised</p> | |

6.

| Date | Phase | Organisation and Activities | Changes in Recommended Unit Treatment | Difficulties Encountered | Suggestions for Improvement |
|---------------------------------|-------|--|---|---|---|
| 22.3.76 9.30 am -12.00 am | III | <p><u>Group A</u> Film "From One Cell"</p> <p><u>Group B</u> Microscopy (Mrs. Elkington)</p> <p><u>Stations</u> (All pupils)</p> <ol style="list-style-type: none"> 1. Microscope work - cheek cell slides, folder worksheet, work card 2. Cell structure (Leaf sections).viewer and slides 3. Skin (Films trip) 4. Microscope work - onion cell slides 5. More information about breathing - Book "Breathing what you need to know." Worksheet 6. Introduction to the microscope (Filmstrip) <p>Stations set up in triplicate</p> | Modified instructions for making slides | Occasions when only two of the original team of three available for supervision of stations | Modification of cell structure cards |
| 23.3.76 9.30 am -12.00 am | III | <p><u>Groups (1,2)</u> Breathing experiments (Mr. Hopkinson)</p> <p><u>Groups (3,4)</u> Stations (continuation and)</p> <p><u>Groups (5,6)</u> Stations (completion of) (station begun on)</p> <p>(22.3.76)</p> <p><u>All pupils</u> Preparation for "Four Food Groups"</p> | | | |
| 25.3.76 9.30 am -12.00 am | III | <p><u>Group A</u> Film "Eating can be good for you"</p> <p><u>Group B</u> Four food groups (Miss Macintosh)</p> <p><u>All pupils</u> Lung dissection by half class groups, with demonstration (3 children per pair of lungs)</p> | 40 minutes extra time given for showing extra films provided by Mr. Hopkinson on breathing and the circulatory system | | More child involvement in the Four food group lecture |

7.

| Date | Phase | Organisation and Activities | Changes in Recommended Unit Treatment | Difficulties Encountered | Suggestions for Improvement |
|---------|-------|---|---|--|---|
| 29.3.76 | IV | <p><u>All pupils</u> Briefing session <u>Group A</u> Film “The Embattled Cell” <u>Group B</u> Lung Diseases, vocabulary (Mr. Foley) <u>Stations</u> (All pupils)</p> <ol style="list-style-type: none"> 1. Filmstrip “Unmasking the germ assassin 2. Respiratory system - microviewers for bioslides, “Breathing: what you need to know” (AmericanLung Assoc. Booklet) 3. Filmstrip “Bacteriology” 4. Emphysema - Book “Emphysema – Answer to your questions,” Emphysema “1Q” booklets 5. Filmstrip “Sleep and Rest” 6. Bronchitis - Pamphlets (Bronchitis, Chronic cough), worksheet <p>Stations set up in triplicate</p> | <p>Mrs. Guest’s work card accompanying slides (stations) was an improvement</p> | <p>Terminology of film advanced</p> <p>Station 2 booklet accompanying slides difficult, help required to focus attention In films trip stations need for presence of teacher to concentrate attention of pupils</p> | <p>A little more time needed for reinforcement of film and Lung Diseases talk</p> |
| 30.3.76 | IV | <p><u>All pupils</u></p> <ol style="list-style-type: none"> (i) Continuation and completion of stations begun 29.3.76 (3 stations done on 29.3.76 and the remaining 3 today) (ii) Individual production of “anti-smoking” posters | | <p>Stations work going well but relies heavily on the pedagogic skills of the group leader. Groups gain from having the involvement of a teacher at the station. Child “readers” pose acoustic problems</p> | <p>More time needed to discuss the <u>nature</u> of cigarette advertising</p> |

8.

| Date | Phase | Organisation and Activities | Changes in Recommended Unit Treatment | Difficulties Encountered | Suggestions for Improvement |
|--------------------------------|-------------------|--|---------------------------------------|---|--|
| 1.4.76 9.30 am –11.55 am | IV | <p><u>All pupils</u> (In separate classes) – disease research, discussion, completion of work</p> <p><u>Group A</u> (Dr. Steiner - Radiologist) talk on Xrays of the lungs illustrated by slides</p> <p><u>Group B</u> (Dr. Brammer - GP) talk illustrated by slides (case histories of chest disease)</p> | | Insufficient time for children to organise answers before discussion before break | <p>Doctor's contributions arranged on two different days</p> <p>Longer periods devoted to individual working on worksheets</p> |
| 5.4.76 9.30 am –11.55 am | V | <p><u>Group A</u> Film "Drugs and the Nervous System"</p> <p><u>Group B</u> Completion of posters, folder work, diaries</p> <p>Those pupils who had missed the <u>extra</u> films shown on 25.3.76 saw them.</p> <p>Remainder (in classes) - discussion of film, culmination work</p> | | | <p>"Extra" films might replace the project films rather than being shown in addition</p> |
| 6.4.76 9.30 am –11.55 am | V and Culmination | Completion of work and preparation for parents' evening | | | |