AN INVESTIGATION INTO SOME ASPECTS OF
CHILDREN'S INTEREST IN SCHOOL WORK

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by
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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

John Dewey, discussing teaching in one of his more recent works said,

I believe that the question of (teaching) method is ultimately reducible to the question of the order of development of the child’s powers and interests. ¹

This study originated in a belief similar to that of Dewey, and in a desire to find out whether, if teachers could harness the abilities and interests of children to the best advantage, in harmony with a sound philosophy of education, schools could become centres of improved teaching and learning. Thus the task attempted is that of making some contribution to the question, “How does one interest children in school work?”

Naturally, such a statement as Dewey’s could not be adequately maintained out of its content as a part of a whole philosophy of education, having regard to general aims, social aims, curriculum, and method. This study too, would not be completely finished without similarly broad treatment, but, to keep the problem within reasonable bounds, its terms

of reference will be mainly teaching method and important contributions to it.

While many would probably be in agreement with the introductory quotation in some degree, its implications followed out in practice raise many important issues. In maintaining Dewey's dictum, one would have to be prepared to answer such questions as these. What curriculum is there to be? Will children, working under a system based on powers and interests alone, receive sufficient training in the basic skills of communication and understanding? What kind of tone and discipline will prevail in such a school? If children at school are to work only according to their interests, how will they fare in later life when they encounter problems and difficulties? Answers to these, and all the other questions likely to arise, could not be satisfactorily made by a purely empirical method, but would best originate from a well thought-out philosophy. For instance, Dewey would agree with those who would query, pandering to a child's interests as wrong, and dangerous, for later development, by saying that,

to humour the interest, is to fail to penetrate below the surface, and its sure result is to substitute caprice and whim for genuine interest.2

Decay thus meant by interest something very different from what is usually understood, and which is discussed more fully below.

This study has no such thorough philosophical basis, and therefore can not attempt to answer all the implied questions, but seeks to draw together and systematise some important contributions to the problem of interest.

I N E C E S S I T Y F O R T H I S S T U D Y

All the above questions are points which are seriously debated today when standards of education are discussed, but which are difficult to answer adequately because of the practical difficulties of comparing education at one period with that of another. Variations and improvements are occurring all the time in the spirit and purpose of education, the training of teachers, the provision of equipment and other facilities, and, further, the type of pupil leaving school to take up some vocations has altered with economic and social conditions. Thus an employer of labour cannot justifiably complain that standards of education have deteriorated, unless he can be sure that he is employing the same type of pupil that he was formerly. However when a considered criticism of some particular aspect of education is made by an organisation, or by an individual speaking as a parent or taxpayer, it deserves some answer because
education is the concern of everyone because it is publicly supported.

This criticism, although not a recent one is a case in point, having some bearing on this study.

There are many parents and others interested in education who feel, with a good deal of justice, that the pendulum has swung from the 'tough' methods of schools in days gone by to the other extreme, where 'learning the play-way', and, in many cases, the abolition of the old incentives to work, have introduced a drift towards the 'soft' way of life, which fails to bring out the best of which the children are capable.  

The question of children's interest in school work is also naturally the concern of every teacher. Finding that he has to modify his methods with a change of class, even in the same age-group, the teacher may seek for guiding principles in this selection of teaching methods. There are practically no simple clear-cut answers available from educational theory and experiment because of the great number of variables involved, but there are a considerable number of answers contributed from various aspects of the study of education.

There is obviously a vast amount of interaction and interdependence among these aspects, and it could be said that teaching method is a resultant of other factors, rather than a discipline in its own right. For instance, the

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3 Editorial in the Christchurch Star-Sun, December 10, 1946.
dependence of method on the psychological theory of learning and the normative study of child development has been immense, as have such disciplines as the philosophical conception of the nature of man, and the aims of education, although in these two latter cases, the causal connections are not so obvious. Yet a full knowledge of these contributing factors does not give a complete or satisfactory knowledge of method. This study attempts to synthesise some of the more important factors.

Some dangers. There is a danger in the direct transfer of the knowledge gained in relatively small areas of learning to a larger and more complex study, and teaching method is not immune from this. The danger lies in the fact that the results from laboratory experiments on human learning, for example, are not always applicable directly to classroom teaching, because the variable under observation in the laboratory may be, in such an artificial situation, an important event, while in the classroom it may be a relatively trivial event in an already highly and complexly motivated situation.  

Even worse confusion may arise if the experiments

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5 C. C. Ross, "The Influence on Achievement of a Knowledge of Progress," *J. of Ed. Psych.* XXIV (December, 1933) 613.
are conducted with animals. What Prescott has to say of the dangers of transference in this respect is also applicable to some experiments on human learning.

It means that the role of the higher mental processes, especially of attitudes and value concepts, has remained relatively unexplored, misunderstood, or neglected in the psychological formulations presented to explain human behavior. Knowledge of the role of these factors must be sought in other than carefully controlled experimental situations. 6

This point is stressed by other writers 7 desiring to see the experimental studies from psychological laboratories supplemented by observational methods under typical school-room conditions as a truer measure of what happens in practice. Prescott emphasizes this difficulty also saying,

Law's of learning have frequently focussed attention upon relatively unimportant factors in learning, after dismissing vital factors by the prefatory statement, 'other things being equal'. In schools, 'other things' notably motivation, are seldom or never 'equal'. 8

Another writer 9 amplifying this, shows how the same competitive situation may mean for one child the probable maintenance of status, while for another it may mean almost certain public exposure to lack of ability.

8 Prescott, op. cit., p. 161.
In addition to trying to avoid these dangers of transference, two further dangers, applying particularly to this study, must also be guarded against. The first is that, in an endeavour to take account of all factors, the topic of interest may become so divided into segments, that no overall view is possible. Berlyne, 10 in discussing this problem, agrees that there are several distinct meanings of the word 'interest', but goes on to say that if the word is to be used as a technical term then its associations must be fully explored. The other, and opposite danger, is that in guarding against the atomistic approach, the treatment may be found superficial and oversimplified. The ideal treatment would probably be midway between the two extremes, but the extent of the topic renders likely an excessive weighting in one or the other respect.

II QUESTIONS ARISING FROM THE TOPIC

As the thesis sets out to answer some of the problems implicitly contained in the larger question, "What makes children interested in school work?", it should be useful to consider some of these questions that are included in and

10 D.E. Berlyne, "Interest as a Psychological Concept," Br. J. of Psych. XXXIX (June, 1949) 139
arise from the topic. For example, what resemblance do the
incentives and play-way methods mentioned above bear to
children's interests? In what way do they satisfy the
meaning of the word motivation? Are the terms interest,
incentive, and motivation interchangeable, or, if not, do
they in any way overlap in meaning? Is it an incentive
alone, devised by the teacher, that makes children interested
in school work, or is it some other kind of motivation, or
a combination of several, such as fear of punishment,
urging from parents, and ridicule from classmates? What
are some of the most important issues involved in the
question of intrinsic as opposed to extrinsic interest?
That is, may not a child extrinsically motivated for school
work, perhaps by the promise of a bicycle if he tops the
class, apply himself just as thoroughly, as cheerfully, and
as successfully, as one intrinsically interested in his
subject? Thorndike, 11 basing his conclusions upon very
simple learning material, is of the opinion that the
intrinsic or extrinsic character of the reward is of little
consequence. A reward of some sort is sufficient.

III DEFINITION OF TERMS

It is almost certain that people using the word
'intrinsic' do not all mean the same thing. For one person

11 E.L. Thorndike, "The Influence of Irrelevant
it may mean a passing fancy, as for example the various games and activities such as stamp-collecting which children take up, even quite enthusiastically, and then abruptly drop in favour of a more fashionable one. In this context, 'interest' is almost akin to 'whim'. The fact that other people use the term to denote an activity, either work or a hobby, which absorbs most of an individual's energies, merely shows the other extreme of the same attitude.

The Oxford English Dictionary lists some ten different meanings for the word 'interest', showing several variants under some of these. From the Latin derivation 'inter esse,' the word shows a relationship between two things or people, literally 'to be between'. The meanings listed which have most relevance for this study are three in number. The first, 'The relation of being objectively concerned in something, by having a right or title to, or claim upon, or share in,' has five sub-headings, none of which seem relevant, although the words 'objectively concerned in' seem important as emphasising relationship outside the person. The second, "A thing in which one has an interest or concern," transfers the idea of relationship to an object. The third seems the most important of all, "The feeling of one who is concerned or has a personal concern in anything; hence the state of feeling proper to such a relation or a particular form or instance of it; a feeling of concern or a curiosity about a person or thing." This definition
continues the idea of relationship with an object, that is, it embraces the first two for our purposes, and introduces the state of feeling, which psychologically is seen as a very important point.

This definition of interest from a psychological dictionary brings out this point. "Therefore an individual is said to be interested in an activity, person, or object, if he expresses a liking for or makes a choice of that activity, person, or object."12 Here is introduced, besides the affective quality, the element of choice, which may be called a rational or intellectual quality. There remains now some reference to the origin of interest, which is found in an almost comprehensive statement from educational dictionary, defining 'interest' as

a subject-objective attitude, concern or condition involving a percept or an idea in attention and a combination of intellectual and feeling consciousness; may be temporary or permanent; based on native curiosity, conditioned by experience.13

There is available also a definition of the 'doctrine of interest,' which differs from this somewhat, being almost purely educational in outlook, and having an historical

importance also. This doctrine, which is expounded more fully below, reads thus,

A doctrine based on the ideas of Rousseau and Pestalozzi, formulated by Herbert, and espoused by De Cnomo and Dewey with some modification, holds that the interests of the learner should be considered and utilised in determining both the content and the methods of instruction; involves recognition of the stages of development through which the individual passes in the process of becoming mature, and the determination of materials and methods suitable for these several stages.\footnote{Ibid., p. 223.}

A recent article by Berlyne\footnote{Berlyne, \textit{op. cit.}, p. 195.} suggests that the following sub-divisions of the term 'interest' are evident and must be studied thoroughly, before an eclectic viewpoint on the major topic, which takes account of all facets, can be established.

"A. Motivation, or aspects of motivation in general.

B. Special forms of motivation involving a striving for novelty. Among these we must draw a distinction between

1. Variation due to satisfaction,
2. Curiosity or an active search for new experiences and knowledge,
3. Aesthetic interest which appears to be related to both.

C. Sub-divisions of the personality on motivational lines."

So close in meaning are the terms 'interest', 'incentive', and 'motivation,' and so interdependent are they, psychologically, that some distinctions must be made to avoid any
looseness of usage. The Shorter Oxford Dictionary defines a motive as,

that which moves or induces a person to act in a certain way; a desire, fear, reason etc. which influences a person's volition; also often applied to a result or object which is desired.

This seems to emphasise the driving force of action, the pushing from behind, so to speak. A psychological definition is in agreement with this normic character of motivation, describing it as,

The process of (a) arousing or initiating behaviour, (b) of sustaining an activity in progress, and (c) of channelling activity into a given course. Broadly considered the analysis of motivation must take account of all factors which arouse, sustain, and direct behaviour. 16

An educational definition of motivation calls it,

The application or use of incentives, whether external or internal, for the purpose of causing a pupil or student to perform in a desired way; usually designates the act of choosing study materials of such a sort and presenting them in such a way as to appeal to the pupil's interests and cause him to attack the work at hand willingly and to complete it with sustained enthusiasm. 17

It is a serious weakness of this definition to use the terms 'incentive' and 'interest' since there is so much confusion among the three terms already.

'Incentive' has a more effective or emotional meaning than 'motivation' in the definition given by the Shorter Oxford

16 Harriman, op. cit., p. 384.
17 Good, op. cit., p. 266.
English Dictionary as,

something that arouses feeling or incites to action; an exciting cause or motive; an incitement, provocation, spur.

It thus seems to refer rather to the attraction towards a definite goal than to a driving force alone; a pulling force with a more definite and more immediate aim than is implied in 'motive'. It has been said by Kingsley 18 that "an incentive is something that satisfies a motive — it operates to reinforce the task." Further, to be effective, it must be recognised as a reward by the learner, "it must appeal to a motive".19 Deese 20 speaks of the difficulty of distinguishing between motives and incentives thus,

The incentive — is what is offered the learner. His motivation is the desire to obtain this incentive.

IV ORGANISATION OF THE THESIS

This study begins with an outline of the origin and development of the concept of interest in the history of education with some necessary background notes, and leads up to the modern scene with some further discussion of divergent


19 Ibid., p. 95.

views on the topic. Then follows a survey of the relevant psychological literature, beginning with the genesis of interest, next considering two main methods by which interest is obtained in schools, and their attendant advantages and disadvantages. Following a description, analysis, and evaluation of the research carried out, a final summing up concludes with some points of reference for possible future research.
CHAPTER II

HISTORY OF THE CONCEPT OF INTEREST IN EDUCATION

In discussing the topic of children's interests in school work from an historical point of view, curriculum and method will be the two separate divisions of the topic most often used. This separation has the disadvantage of obscuring somewhat the interrelationships between the two aspects, which frequently amounts to interdependence. For example, the development of scientific method was closely and causally linked with the introduction of realism in the curriculum and vice versa. However, the common idea of the function of education was usually so limited in scope that these two were often the only divisions possible.

It was not until education more popular and so widespread as to include all classes of the community, about 1870 at the earliest, that its function at the elementary level was recognized as other than a preparation for higher education which shaded over into professional training. In ancient Greece, as in other European countries almost until the twentieth century, education had also a selective function.

Pupils were to be sent to school only as long as they received real benefit from the instruction, and Plato thought many pupils would be dismissed early in the course because they lacked the capacity for advanced study.¹

This narrow concept of the function of education badly cramped both curriculum and method. Since for hundreds of years higher education was confined almost solely to a study of the classics both for form and content, elementary education, where it existed at all, consisted largely of identical matter and method, modified to what was considered to be suitable for the lower age level. The matter was the classics, the method an analytical study of language. As the proportion of the population receiving any formal education was always very small, and at times almost negligible, the general harm done was not a major evil, but there is little doubt of sufferings of individuals because of their failure to profit by this type of education. Peterson quotes an observer who saw a boy of less than twelve years of age caned because, although he had answered correctly that 'profieldes' was a deponent verb, he could not explain what a deponent verb was.

The method of learning as applied to a study of the classics was little different when turned to the vernacular tongues, or any other subject. It still consisted of exposition by the teacher who broke down the subject into what were considered to be its simplest elements, and then built up from there to more complex and extensive knowledge.

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In the teaching of some subjects or parts of subjects this method still has its uses, and it is a tribute to the high regard in which it was held that, within the last thirty years, it still was the chief method of teaching piano playing, reading, and spelling, subjects which now are generally recognised to require at least some emphasis on the whole as well as the part. Even the advent of realism into the curriculum did little to prevent such perversions of analytic doctrine as exemplified by the most extreme 'object lessons', although it must be admitted that most of those teaching in that way were attempting to follow the psychological principles of Pestalozzi and Herbert. That both curriculum and method underwent great changes from early Greek times until the advent of universal compulsory education is well-known, but this change is more apparent with the former than with the latter. In various texts, the curriculum mentioned and the general aim of the education system, for whatever social purposes, give more clue to our knowledge of education in the past than any discussion of method. Peterson suggests that this is because the traditional practice of education had nowhere been formulated as a theory, partly because each generation accepted it as inevitable, partly because the whole conception of education as a science had still to be developed.

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3 H. B. Reed, "Meaning as a Factor in Attention", J. of Ed. Psych. XXIX (September, 1938) 426
4 Peterson, op. cit., p. 77.
5 Ibid., p. 63.
This is true in spite of writings on education by such men as Plato, Quintilian, St. Augustine, and others in succeeding centuries. Exposition of educational theory was largely neglected, so that it has often been found necessary to make a deduction of a theory from the practices that have been mentioned.

As a methodological expedient, the history of the concept of interest is divided into periods which are generally considered to have been subject to some discernible influence.

I EARLY FORMAL EDUCATION SYSTEMS

In very primitive cultures, as also in our own complex society, individuals learn much by imitation and actual participation. For example, the daily custom and convention observed at meal-times is absorbed so regularly that it becomes an integral part of the individual's make-up while he is a part of that particular culture. While this method is scarcely ever consciously used in direct classroom relationships, children still acquire most of their social attitudes in this way from both parents and teachers.

Miller and Dollard maintain that this tendency may become built in as a facet of personality.

If matching or doing the same as others do, is regularly rewarded, a secondary tendency to match may be developed, and the process of imitation becomes the derived drive of imitativeness.6

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The resulting and accompanying effects on the individual and on society are important to Valentine 7 who considered that some imitations apparently assisted the subject to participate in the experience of the imitators more vividly. Miller and Dollard 8 also emphasised the importance of this secondary tendency to imitate in view of the high rewards resulting from joint social action. They cited national unity in a crisis as a good example of this, and emphasised too the importance of imitation in maintaining social conformity and discipline.

A second important feature to be considered here is that of memory. Primitive cultures rely heavily on memoriser methods to conserve the history of their race in legends, so that it is not surprising that early formalised education systems laid great store by it also. It is still, of course, a factor in learning, but a relatively unimportant one compared with its stature up till quite recent times, when the ability to recite facts had its origin in straight 'cramming'.

The education systems of the early Jewish, early Greek, and Roman cultures all relied heavily on both imitation and memoriser methods. "Hence, learning the Mosaic law, the chief item in the Jewish curriculum, was largely a matter

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8 Miller and Dollard, op. cit., p. 9.
of memory".  Quintilian, the great Roman educator, upheld both methods thus:

A good memory is the chief indication of ability in a pupil — Next comes the faculty of imitation, for that also is characteristic of a teachable nature.\textsuperscript{10}

Although Plato warned strongly against the possible dangers of imitation, most Greek teachers did exhort their pupils to imitate the great men of noble example. Greek teachers also relied on memory.

The teachers set them to work on their benches to read the poems of the great poets, and obliged them to learn these by heart.\textsuperscript{11}

Apart from these two general methods, teachers used other means also to induce their pupils to take an interest in their work. Pictures on Greek vases show boys being whipped by the pedagogue. This was a characteristic too of the Jewish and Roman systems where teachers used severe punishment and fathers of families were invested with legal authority to do so.

Nevertheless the main method of instruction was the minute analysis of material. Quintilian wrote,

There is no short cut to the learning of syllables. They must all be learned by heart: nor, as is frequently the case, should the more difficult be postponed until

\textsuperscript{9} Brubacher, \textit{op. cit.}, p. 167

\textsuperscript{10} W.M. Smail, editor, \textit{Quintilian on Education} (Oxford: Clarendon Press, 1938), p. 30

they are dealt with in writing words.\textsuperscript{12}

Despite many such dicta, Quintilian was more enlightened in most respects than many later educators in his recognition of more enlightened forms of motivation suitable for children. In his system he said,

Tests of promotion were held from time to time, and to earn promotion was a great prize with us, whilst to be head of the class was a most coveted honour.\textsuperscript{13}

He recognised too the importance of a feeling of achievement, saying,

(\textbf{The pupil}) must be nourished with hopes of success; he will feel the sting of reproof, desire for glory will spur him on; in such a pupil, I shall never be afraid of idleness.\textsuperscript{14}

II THE MIDDLE AGES

During the long period known as the Middle Ages, from about the fall of the Roman Empire in 476 A.D. until the beginning of the Renaissance period approximately a thousand years later, education, with the infusion of powerful Christian influences, and undeveloped by any strong and unified civil state, grew narrow and formal in outlook and practice. Dedicated almost completely to training for ecclesiastical

\textsuperscript{12} Smail, \textit{loc. cit.}
\textsuperscript{13} \textit{Ibid.}, p. 27.
\textsuperscript{14} \textit{Ibid.}, p. 31.
purposes, it deliberately neglected many of the accomplishments of the great scholars of the past on the grounds that they were pagan and heretical. Despite some great individual achievements in letters and the arts, the methods used became excessively formal and sterile, largely because personal development was not encouraged. As the true object of man's interest was to be union with God, almost all temporal activity was subordinated to spiritual considerations.

Curriculum was first based on the end-product of Greek and Roman education, the Seven Liberal Arts, comprising grammar, rhetoric, dialectic, arithmetic, geometry, music, astronomy. Gradually however this degenerated into the formal study of classical authors for the purpose of imitating their style. The religious basis of cultural life had its outcome in the elimination of those texts considered contradictory to Christian doctrine, and although the best products of art and music were certainly magnificent, they were strongly biased towards religious topics.

Methods of teaching depended greatly on lectures and discussions because of the scarcity of books, and students had to remember a great amount of detail.

By way of preparation for these composition exercises, the pupils were shown the qualities in the classical writers worthy of adoption — the pupils had a good deal to commit to memory. 15

As the greatest effort in education was directed to what we would call the secondary stage as preparation for the clerical life, it is surprising to find any enlightened methods recommended for the teaching of young children. Yet St. Jerome gave this advice,

Offer prizes for spelling and draw her onwards with little gifts such as children of her age delight in — You must not scold her if she is slow to learn, but employ praise to excite her mind — Set for her a set of letters — Let her play with these, that by her play she may learn something.16

Towards the end of this period, the increasing geographical knowledge brought more trade to Europe, and more towns began to spring up. Here the growth of craft and merchant guilds was important in carrying on an educational function in vocational training of apprentices. The beginnings of more unified nation-states too was an important factor in reaching through the vernacular tongues instead of Latin, with a resulting increase of interest.

III HUMANISM

The development of the humanistic trend in education, a result of the Renaissance period, was notable for the new spirit it brought to a curriculum and method which largely followed previous generations. That spirit was shown in the renewed study of the classical authors for the knowledge they conveyed, and the rediscovery of ancient texts.

on science, geography and other subjects was linked with the contemporary growth of learning. The relevance of education to man's needs here and now, received an emphasis that had long been neglected. Luther advocated,

--- chronicles and histories in whatever languages they may be obtained; for they are wonderfully useful in understanding and regulating the course of this world, and in disclosing the marvellous works of God.17

Describing his proposals as mere child's play, carried out previously by the Greeks, Luther 18 proposed adding to the teaching of languages and history, instruction in singing, instrumental music and a complete course in mathematics.

The great Humanist educators were interested not only in reorganising the curriculum, but paid more attention to the suitability of methods for the education of the young. Mildness was the keynote of the practice of Vittorino da Feltre. Similarly, Montaigne, Ascham and Luther would agree with Erasmus 19 who advocated associating pleasure with the teaching process to ensure interest in the subject matter. This he would do by means of games, by encouraging ambition and emulation, by the alternation of subjects, and by the provision of intervals for relaxation.

18 Ibid., p. 180
While Jesuit education does not strictly belong to this movement, and in addition concerned itself more with older boys, it was contemporaneous with Humanism and resembled it in a number of respects. What is particularly noteworthy however is the system of incentives, based on rivalry and emulation, by which the pupils were stimulated to work. The class was divided into two groups and then into sub-groups, while each individual boy had a rival of approximately equal ability in the other group. The groups and individuals were frequently pitted against one another in contests of speaking, writing, and other exercises.

Speaking of these questioning contests, or 'quiz session' in modern idiom, the 'Ratio Studiorum' of the Jesuits says,

"This exercise is to be highly esteemed and as often as possible engaged in, in order that a proper emulation — which is a great incentive to study, may be cultivated."

In addition, their methods of grading pupils, and such practices as providing recreation, and using dramatisation, promoted such interest as to make their disciplinary troubles comparatively insignificant.

IV REALISM

The movements mentioned up to this point reach from early Greek times down to the beginning of the seventeenth
century, and are based chiefly on the philosophy and psychology of Aristotle, central to which was the unique rationality of man. Such an outlook sufficed for superior learners in the literary subjects, but were of less use when applied to the education of a wider class of the community. About this time a germinal concept of the nature of the child, previously glimpsed by both Aristotle and St. Thomas Aquinas began to get wider acceptance.

This idea was the dual nature of the child, and from it arose the idea that learning could be gained through both the mind and the senses. Henceforth, theories of teaching method that gained widest acceptance were fundamentally based on this idea. Bacon and Descartes were the primary figures in this new emphasis on learning through the senses, and their beginnings of the scientific method of advancing knowledge had a profound effect on later science, psychology, and education. In the 'Novum Organum', Bacon clearly distinguished two ways of investigating truth.

The one hurry's on rapidly from the senses and particulars to the most general axioms; and from them, and their supposed indisputable truth, derives and discovers the intermediate axioms. — The other constructs its axioms from the senses and particulars, by ascending continually and gradually, till it finally arrives at

\[ \text{24 Loc. cit.} \]
The most general axioms, which is the true but unattempted way. 22

The effects of this were to cause a turning away from the traditional method of deductive thinking, in favour of induction developing principles from careful observation. While this was not the exact and early result, Bacon's work influenced the introduction of the study of real objects rather than words in teaching. Comenius was the outstanding exponent of this realistic tendency in education, and, as a result of his extensive writings on aims, methods, and curricula, formulated the first systematic body of knowledge on practical and theoretical aspects of teaching.

A complete list of the innovations he suggested would be too long for here, but the important point for this study is that, by his emphasis on education through the senses by observation, and the use of pictures and apparatus, he had a profound influence on both curriculum and method. In his desire to find analogies with nature in education he was sometimes misled, but the later influence of this bias was important. He made schools pleasant learning laboratories, and said that the teacher would succeed

if he take the trouble continually to introduce something that is entertaining as well as of practical use; for in this way the interest of the scholars will be excited and their attention will be arrested.23


Emphasising the practical side of education Comenius proposed to teach to children in his elementary schools, skills that would be of life-long practical use to them, such as reading, writing, counting, and measuring.

The proponents of realism did not neglect the study of languages but advocated improved methods of teaching them. John Locke, for example, favoured the correlation of language teaching with geography, astronomy, and anatomy, and urged that as much real knowledge as possible should be linked with language study, "beginning with that which lies most obvious to the senses." He expressed a doubt whether Latin should be learned, but suggested that if it was considered necessary, it should be learned easily, without toiling and disguising the mind by as uneasy an employment as that of making speeches joined to it.

All things considered, it would probably be fair to say that the best of realistic education more nearly approached modern ideas of education, than did much of the unrealistic school work done last century.

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24 Ibid., p. 262
26 Ibid., p. 151
V ROUSSEAU AND THE PSYCHOLOGICAL MOVEMENT

While realism had certainly given the first effective probe into the nature of child interests, it was Rousseau and the leaders of the psychological movement who really came to grips with child psychology, and who first recognised that a child was not just an immature adult but a different psychological entity. A child was recognised now as a being in his own right, possessing interests, potentialities, and capacities that required thoroughly different education.

"Childhood has its own ways of seeing, thinking, and feeling," said Rousseau 27 in the 'Emile,' a work in which he passionately denounced education of his time as directly contrary to nature, and therefore artificial, useless, and morally wrong. His revolutionary writings exhorted his readers to strip off the physical and social fetters of children, to allow them to develop freely and naturally, and to look to their powers and interests as forces to be harnessed instead of repressed. Children would learn more from experience than from the teaching of ideas of which they had had no experience. Rousseau maintained that children have no true memory, because they are incapable of judging.

They retain sounds, forms, sensations, but rarely ideas, and still more rarely, relations. 28

On these and similar ideas were built such later educational precepts as 'things before words,' and 'description before definition.' Dewey, a fervent champion of Rousseau, limited the latter's most important contributions for future educational progress to two main emphases — his insistence on the utilization of native capacities, and the necessity for the careful study of children in order to discover these. 29

 Pestalozzi and Herbert, two of the leaders of the psychological movement in education, were profoundly influenced by Rousseau in this way, although each of them, in various ways, chiefly by their stated aims and curricula, implicitly denied some of the more radical of Rousseau's theories. The chief emphasis in psychological movement of importance for this study was that education was a self-active process based on natural interests. However, in their insistence on the necessity for a scientifically devised method of teaching, Pestalozzi and Herbert went beyond many of Rousseau's more extreme views, such as the complete rejection of verbal education in favour of learning

28 Ibid., p. 72

by experience alone. 30

 Pestalozzi’s ideas on method were based on the realistic and naturalistic idea of ‘things before words’—

 He gets in this way an inner sense of impression long before he can give it outer expression. 31

 In doing this he largely abolished the reliance on books, and substituted the necessity for skilled questioning, to lead a pupil gradually and pleasantly from a perception to an abstraction. Showing his belief in the necessity for skilled teaching, he said that any subject, if not interesting in itself, could be made interesting by the method of teaching it. 32

 Taking child interest as the starting point, and intervening a series of carefully planned progressions, he built up a lesson whose end was the result of the child’s own effort. This effort he considered an essential part of the learning process, 33 but still favoured the initiating factor.

 These are scarcely and circumstances in which a want of application in children does not proceed from a want of interest. 34

 This was the principle of self-activity, the active participation by the children in following the sequence of questions towards a predetermined end.

 It is important to note that the method of proceeding

 30 Rousseau, op. cit., p. 56.
 31 J. A. Green, editor, Pestalozzi’s Educational Writings (London: Edward Arnold, 1912), p. 129, citing Gertrude Teaches Her Children.
 32 Ibid., p. 251, citing Letters to Creaves.
 33 Ibid., p. 253.
 34 Ibid., cit.
from the simple to the complex was the core of the method used by Pestalozzi in his object lessons, and was assumed by him to be the basis of child logic. To a large extent it is true, but as shown above, there is a real place too for a holistic approach as well as an analytical process of learning.

Unfortunately Pestalozzi's object lessons, in the hands of unskilled and unimaginative teachers, later often degenerated into an artificial and sterile formalism, having little regard for child interest. The intellectual processes were too often over-emphasised at the expense of the principle of self-activity.

Herbart agreed with the self-active process but gave it even more intellectual emphasis than did Pestalozzi; he also expanded and deepened the idea of interest, which is really the core of his doctrine. The basis of interest for Herbart was the concept of the apperceptive mass, which he said was the sum total of experience and knowledge, ordered and systematised by the action of the mind so as to provide a basis for new learning. He described it thus,

The manifold receptivity which can only grow out of the manifold beginnings of one's own educational efforts is a matter of education. Therefore we call the first part of the educational aim — many-sidedness of interest, which must be distinguished from its exaggeration — dabbling in many things. 35

Herbert divided all knowledge into three categories, symbols, forms, and things. The first two were for him practically devoid of interest, but of things he said that they excite direct interest. Then he shows the action of mind in abstracting from things their essential properties, following which the mind can proceed with equal ease by analysis or synthesis to new knowledge.

Interest for Herbert was not an accidental quality to be capitalised on wherever possible, but the essential beginning for leaning. It was both the pleasant feeling state accompanying the acquirement of knowledge, and the outcome of the apperceptive mass which in turn made possible the acquirement of new knowledge. He writes,

"For we conceive of mere knowledge as a store which a man may be entirely without, and yet be no other than he is with it. He, on the contrary, who holds his knowledge firmly, and seeks to extend it, has interest for it."

There is some circularity of argument here, a process which Herbert broke by considering the action of will.

We are inwardly active because we are interested, but externally we are passive till interest passes into desire or volition. It occupies the mean between mere observation and attainment.

This idea was a fruitful starting point for some of Dewey's ideas, and is treated later, as also are Herbert's contri-
butions to the study of attention.

His six categories of interest need only be mentioned at this point, except to note his careful distinction between direct or immediate interest, and indirect or mediate interest. In this distinction he gave a more exact statement than Pestalozzi, and showed them to be practically identical with contemporary ideas on intrinsic interest, as concerned with the ends to be gained, the subject itself, and extrinsic interest, as concerned with the means of reaching knowledge. This is a distinction that ever since has been pregnant with meaning for educators when considering curriculum and method, and vitally concerns this study.

The teaching method which Herbart developed from these ideas, made education, considered as the imparting of knowledge, almost an exact science, whose influences are still felt today. By using both analytical and synthetic methods in the steps of a lesson—preparation, presentation, association, generalization and application—the child was to be brought from present interest to new knowledge.

It was, as with Pestalozzi's plan, a method based on many concepts considered psychologically sound today, it used interest as a basis, and it largely evaded the charge of verbalism, but, as in Pestalozzi's plan, it often degenerated just as badly when used without imagination.

VI THE NINETEENTH CENTURY

It is probable that some gross oversimplifications will be
seen in any attempt to take a brief view of the kind of teaching that prevailed in the nineteenth century. This is because of the omission of the philosophy underlying it, and also because of the omission of the large number of factors — industrial, political, and social — which together gave rise to national systems of compulsory education before the end of the century. One could also be badly in error in describing a facet of education which became so widespread, and in labelling it as typical of nineteenth century theory and practice, because great changes were evident over the whole period, and in different systems at the same time. However, for the purpose of adhering to some continuity in the history of the concept of interest, some such attempt is necessary.

Features that were of importance for later criticism were that school classes were very large and therefore the keeping of discipline was a difficult task, the curriculum was rigidly prescribed, and teachers received a relatively narrow professional training. Under such conditions, greatest success seemed to be promised by 'sergeant-major' tactics of keeping order, and a dogmatic expository style of teaching. The conception of the absolute, unarguable authority of the teacher, together with the idea that education consisted in filling an empty vessel (the mind) with information, knowledge, and 'truth'.
made the mechanics of the teaching process seem comparatively simple, once the necessary order in the room had been established.

The source of interest in this atmosphere was almost always on a purely selfish plane, such as avoidance of punishment, the gaining of a reward. The Herbartian and Pestalozzian principles, such as self-activity, and learning from real objects did have some liberalising effect later in the century, but physical conditions were inappropriate, to say the least. In addition, teachers using such methods frequently took little account of the psychological background of them, so that there often developed a formalism not intended by the pioneers. Also, too much of the children's work had practically no relation to any imaginable life situation; and further, an exacting system of examinations had developed for the purposes both of class-to-class promotions, and for certification for work or further education.

Towards the end of the century however, a gradual improvement in the physical conditions of schools, such as buildings and staffing schedules was apparent. The introduction, too, of more life situations in the curriculum, was accompanied by some recognition that a rigidly authoritarian teacher-pupil relationship and the almost completely passive method of learning, was not in the best interests of the child.

By and large however, the ideal child was still considered to be one who could placidly imbibe instruction, and then regurgitate it in an examination or during an
inspector's visit. His creative ability, in art and written expression for example, was not encouraged, nor was his ability to cope with a social problem such as producing a play. For transgressions off the beaten path, punishments were severe.

VII THE INFLUENCE OF DEWEY

Towards the end of the nineteenth century, seeking to remedy these conditions, came a modern Rousseau, John Dewey. Basing his educational ideas on a comprehensive and coherent philosophical system, he worked down through the whole structure of general aims of education, special aims, methods, and curriculum, and showed how his theory and practice would improve both the individual and society. Dewey's theory of interest is based on his ideas on history and science, and is also rooted deeply in his philosophy of the nature of the universe, his theory of knowledge, and his ethical system.

For the purposes of the practical teaching situation however, the origin of interest is found in his theory of curriculum, which, he said, should be based on social experiences.42 Education for Dewey was not the assimilation of subject-matter per se, but the growth and development of the individual by his own active processes working on the basis of past experience.43 (A link with Herbart can be seen here.)

41 John Dewey, Education Today p. 12
42 John Dewey, Experience and Education (New York: Macmillan and Company, 1933), p. 32
Dewey would consider children's powers and tendencies in action to be the best starting point, rather than teaching children a curriculum based on adult ideas of utility and logic. He puts it thus:

But if we start from the standpoint of the active powers of the child concerned, we shall measure the utility of new subject-matter and new modes of skill, by the way in which they promote the growth of these powers.  

He argued that to present children with subject-matter logically, rather than psychologically arranged, gives rise to three main evils — a lack any organic connection with the child's experience, so that the material becomes merely formal and symbolic, a lack of motivation, and the disuse of the active powers of the mind in favour of memory.  

In discussing the importance of thinking in education, Dewey shows that it arises from meeting with a difficulty, solving it by a sequence of definite stages, and acting upon it, after which further problems will arise, and the same cyclic process will recur. Dewey was emphatic that some activity must take place before productive thinking would occur.  

He considered that the moral for teaching was to locate a suitable problem arising from the child's experience, and thus motivate him in the best way, writing:

When the subject-matter has been psychologised, that is, viewed as an outgrowth of present tendencies and activities, it is easy to locate in the present some

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obstacle, intellectual, practical, or ethical, which can be handled more adequately if the truth in question be mastered. This need supplies motive for the learning. An end which is the child’s own carries him on to possess the means of its accomplishment.\textsuperscript{47}

When the child has this motive, to reach the accomplishment of an end clearly perceived by himself, the means that carries him from his present powers to the achievement of his purposes is called interest. The teacher, not as a force-feeder of knowledge, but in the role of guide and planner, will relate the child’s own present social experience to further ends, and provide the means by which the child will respond.\textsuperscript{48} Dewey considered that children would not have to be coaxed or seduced into learning by working through a task when they saw clearly its significance, for they would be occupied with it for real reasons, and not just as something to be learned.\textsuperscript{49} Under such a scheme, method, curriculum, motive and effort would be continuous, fusing together into a dynamic entity.

One of Dewey’s best-known statements on interest will serve both to sum up the foregoing, and, for this study to provide a point of reference for a consideration of another type of interest. He writes,

The genuine principle of interest is the principle of the recognised identity of the fact to be learned, or the action proposed, with the growing self; that it lies in the direction of the agent’s own growth and is, therefore, imperiously

\textsuperscript{47} John Dewey, The School and the Child, p. 140
\textsuperscript{49} Ibid., p. 199
demanded, if the agent is to be himself. Let this principle of identification once be secured, and we have neither to appeal to strength of will, nor to occupy ourselves with making things interesting.50

In Dewey's theory of interest he makes a sharp division between indirect or mediate interest on the one hand (called intrinsic interest in current terminology), and direct or immediate interest on the other, (called extrinsic interest). The first type is the one here discussed as containing the essence of Dewey's ideas on learning, where the interest arises from having a clear conception of a goal and seeing its relation to the available means of reaching it. An example of this would be seen where a child, wishing to write a letter to a friend, and realizing that he must express himself clearly, sees the purpose of accurate punctuation. The second type of interest occurs where the satisfaction is found and the end is reached in the present activity, with no further development beyond. To use the same example, if the child had been taught to punctuate correctly for the sake of scoring a good mark, and had no idea of the relation of the exercise of his own needs, both the goal and the means of reaching it would run parallel to one another and would cease simultaneously. Dewey would maintain that the means, in this case the punctuation exercise, must be mediate to a further goal, in this case the writing of a letter, for true intrinsic interest to become operative.51

50 Dewey, *Interest and Effort in Education*, p. 7
51 Dewey, *Democracy and Education*, p. 149
The characteristic of extrinsic interest Dewey considers, is mere excitation of the senses. If a lesson is made interesting, the child naturally oscillates between the pleasant, the adjunct to what must be learned, and the unpleasant, the learning itself to which he is required to attend. Although, for Dewey, true interest was not mere pleasure, under the ideal conditions of linkage between means and ends, it would involve real preoccupation with work, which would generally be conceded as containing at least an element of pleasure. Equally, Dewey did not emphasize mere effort at the expense of interest, but clearly distinguished the perversions of each, and interrelated their true meaning thus:

Effort, in the sense in which it may be opposed to interest, implies a separation between the self and the fact to be mastered or task to be performed, and sets up an habitual division of activities. Externally we have mechanical habits with no mental end or value. Internally, we have random energy or mind-wandering, a sequence of ideas with no aim at all, because they are not brought to a focus in action. Interest, in the sense in which it is opposed to effort, means simply an excitation of the sense organs to give pleasure, resulting in strain on one side and listlessness on the other.53

In almost all of Dewey's educational writings he denounces the adding of incentives on to school work to induce pupils to learn something that has no relation to their needs. The failure may be in the teacher's selection of subject-matter too remote from the pupils' experience, it may be in the failure to

52 Dewey, Interest and Effort in Education, loc. cit.
53 Ibid., p. 14
relate suitable subject-matter to the pupils' experience, or it may be simply in the over-reliance on intrinsic methods of teaching in general.

"Learning by doing" did not mean the substitution of handwork for the study of text-books, but rather using the one as supplementary to the other. Schools which adopted his methods, for example Public School 45 in Indianapolis, kept up an activity programme within the framework of the state-prescribed curriculum. Other schools that followed his teachings were set up at Fairhope, Alabama, and at Interlaken School, Indiana, and in such schools, the whole curriculum centred on experiences. These experiences, round which learning situations were built, were linked with the local community. Since the process of learning was also socially planned and shared, Dewey ensured the social basis of education, which he felt to be necessary.

Dewey's influence lies mainly in the emphasis he laid on relating work to the children's life. In protest against the filling of the mind with knowledge, he championed the organic theory of mind characterised by development and growth. His careful distinction between intrinsic and extrinsic interest was the focal point of much discussion and change in educational theory and practice.

54 Dewey, Schools of Tomorrow, p. 71.
55 Ibid., Chapter II
56 Dewey, Interest and Effort in Education, p. 63.
CHAPTER III

EDUCATIONAL PSYCHOLOGY IN THE GENESIS OF INTEREST

The previous chapter introduced the concept of interest as a bi-polar phenomenon, being either intrinsic or extrinsic in character. It may well be that this is a case where the extreme manifestations can be easily distinguished, but what may for convenience' sake be called the 'normal' types merge into one another so that some arbitrariness may enter into the labelling of an interest as intrinsic or extrinsic.¹ In international athletics, for example, such labelling approximates to defining the limits of amateurism and professionalism. In school work where the goals are frequently less clearly defined, the problem is often more complex. Here intrinsic and extrinsic motives may be so closely interwoven that, while the long-term purpose may be extrinsic, for example seeking a higher social status, the immediate motive may be intrinsic interest in the work itself.

To take the question further and ask what the origin of these interest states is, begins a controversial discussion on the nature of the forces which move human

beings to behave the way they do. Contributions to the topic are, however, sufficiently well based to permit a preliminary analysis for the purpose of making a working assumption.

II ORIGINS OF INTEREST

The question as to why a child should be interested in doing arithmetic, for example, could be answered on an intrinsic basis by saying that this child wants to solve a problem, and therefore will be interested in learning the intermediate steps towards that end. Answered from an extrinsic point of view, it could be said that this child is keen to earn the approval of his parents, or to enjoy a feeling of superiority over a rival. While a thorough-going cynicism ascribing all behavioural causes to self-interest would probably not be tenable, it may be just as difficult to maintain a reasonably complete and differentiated system which is applicable in all cases.

For hundreds of years men have been assigning reasons for human behaviour to such motives as ambition, jealousy, hatred and so on. In the past sixty years however, more serious attempts have been made to classify such basic tendencies into a conceptual framework applicable to everyone. Psychologists began to seek for some principles which would explain all human behaviour. That they did not
succeed in reducing human motives to three, six, or eighteen
universal tendencies on which everyone would agree, is not
as important as some of the by-products of this study, for
example, social psychology. The changes of terminology
from time to time, and from one writer to another, do little
to assist in the proper comparision of results, but for
the purposes of this study, the terms drive, tendency,
propensity, and instinct will be considered synonymous.

One of the best known classifications is that of
McCougall, who postulated, as characteristic of human
behaviour, eighteen 'inmate propensities', such as the
instinct of self-assertion and the instinct of pugnacity,
each of which was characterised by an accompanying feeling
state. Freud emphasised the 'libido' or sex instinct,
considered in a broad physical and psychological (including
emotional and aesthetic) sense, and combined this with
the 'ego', which strongly resembled the self-assertive instinct
of McCougall. The combination of these two factors,
controlled by the moral censor or 'super-ego', provided the
basis of Freud's explanation of behaviour. It has had
considerable value both in a practical, therapeutic sense,
and in a theoretical conceptual sense. Freud wrote,

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The interaction of the two basic instincts with and against each other gives rise to the whole variegation of the phenomena of life. 3

Woodworth and Marquis 4 emphasise both the innate propensities of Freud and McDougall, and also the learning that derives from living in society. They make a threefold grouping, without specifically limiting the content of any one category, listing organic needs, emergency motives, and objective motives and interests. They discuss this classification at some length and show the close connection between learned and unlearned motives, but do not seek to delve into the exact relationships between these broad divisions.

Other theorists in psychology 5 have given classifications differing from these to a greater or lesser extent. Many now prefer however to classify basic tendencies in more functional terms, rather than in rigid categories. Such a functional system is Prescott’s idea of needs, covering physiological needs, social or status needs, and ego-integrative needs. 6 Possibly the change of nomenclature gives the idea of a superior system, but at any rate, Prescott gives adequate

6 Prescott, op. cit., p. 113.
emphasis to the limitations of his system, limitations which are in fact more frequently applicable to systems other than his own.

The categories which have been set up, and the more specific needs within them, will not be found to be mutually exclusive, independent, or instinctive drives, each seeking satisfaction through a specific pattern of behaviour. Behaviour has a unity which far transcends this.7

He might well have added the characteristic variety possible, as Allport does. 8 This writer also criticises rigid classifications as obviously inadequate, even in varied combinations and extensions, to account for the multiplicity of goals sought by human beings. This point is emphasised by Burt when he concludes that what motivates any person is,

The particular total pattern of organised tensions set up between that individual and his environment or field. 9

These classifications vary so widely that little common ground can be seen; yet what is there is useful for a working assumption in three respects, which are not arranged in any order of importance.

In the first place, each classification gives some weight to the purposive, seeking nature of the instincts—an observation which is apparently axiomatic, but which is

7 Ibid., p. 114
9 Cyril Burt, "Is the Doctrine of Instincts Dead?" Br. J. of Ed. Psych. XI (1941) 8
also educationally important in asserting the necessity for the individual to respond. Although Lewin criticised the use of the term drives, in his own psychological explanations of human behaviour he used the term goal-seeking which is not so very different. Tolman divided drives into appetites and aversions. Watson envisaged teleological processes as characteristic of human activity, and Hull emphasised purposive behaviour also. Laboratory experiments likewise lend weight to the importance of the response in learning, because subjects that do not respond cannot be tested.

Particularly pertinent to this study is Mower's view of the importance of responses. He suggests that responses and interests are identical, the former being overt and skeletal in character, while the latter are covert and emotional. Thus, for him interests learned by past satisfactions are essentially the same as responses. He said that this hypothesis shows how it is that interest-responses and emotions may serve to motivate and reinforce new learning; and it identifies the 'goal-object,' actual or symbolised, as the stimulus or signal which trips off or arouses interest.

11 Ibid., quoting Tolman, p. 246
12 Ibid., quoting Watson, p. 203
13 Ibid., quoting Hull, p. 234
15 Ibid.
The second point of agreement lies in the almost universal acceptance among the writers on instinct of some organic basis for them. The importance of this is shown sufficiently well in Prescott's physiological needs, recognising that certain essential conditions of food, rest, temperature, and light should ideally always be operative at their most beneficial level. There is, however, a reasonably wide range of these conditions within which children can work. Nevertheless numerous studies made in industry show the tremendous importance attaching to the operation of these conditions at their optimum level. Obviously, children who have an excessive amount of work to do before school, or who come to school inadequately clothed or fed, are working under an unnecessary handicap.

Thirdly, each classification of instincts recognises the significance of social learning. This has been described as an intricate web of acquired drives which has been subtly or overtly interwoven into the pattern of unlearned instincts as a result of living in society. For example, on the basic 'hunger drive' are built the preferences for certain kinds of foods rather than others, the conventions of table manners, and the social significance of civic luncheons and wedding receptions. The ramifications seem endless, and as

16 Miller and Dollard, op. cit., p. 8.
Allport points out,

Paradoxically enough, in certain cases the few simplified needs or instincts alleged to be common ground for all motivation, turn out to be completely lacking.17

The exact distinction between learned and unlearned instincts seems to be material for only a barren discussion from an educational point of view. Once the dual origin of human motives is recognised, an eclectic and functional viewpoint is of more value. Allport adequately shows how 'primary' motives become refined and developed, and, in doing so, acquire an autonomous existence, detached from their original impulses just as a tree becomes independent of its seed, although the seed is undoubtedly the origin of the tree. He describes this development as

an elaborate process of learning and growth (intervening) between the organic wants of infancy and the cultural wants of adulthood, involving all manner of linguistic, imaginal and emotional factors that ultimately transform the segmental cravings of infancy into desires having no longer any functional connection with them, but holding in their own right an autonomous place in personal life.18

He calls this development 'the functional autonomy of motives,' and cites as an example the attitude of an expert workman in taking a pride in sestrous performance of his trade, regardless of incentives of extra pay or praise from others.19 Aveling20

17 Allport, loc. cit.
18 Ibid., p. 121.
19 Ibid., p. 196
agrees whole-heartedly with this view, and shows that such a process should be assisted wherever possible. He favours for this development some dependence on extrinsic incentives however.

This general statement on autonomy of motives could be turned slightly to provide a basis for a discussion on transfer of training, which it closely resembles as an end-product, but does not support in its development from first principles. This is because 'functional autonomy of motives' refers mainly to an adult's accomplishment of a long and difficult process of learning, which a child can seldom attain. Any apparent functional autonomy a child may have, such as always doing neatly written work may resemble that of an adult superficially. Casual observations appear to suggest however that it is relatively short-term in effect, and may often be completely dissipated by changes of teacher or class. In this case the term autonomy seems to be inapplicable in its strict meaning although such an attitude may, and probably does represent the beginnings of the adult achievement.

Thus, from the variety of postulations of the sources of human activity, have been extracted three essential common factors — the necessity for a response, the essential organic basis of some motives, and the importance of social learning. While a more thorough study of such concepts may have considerable value for the psychologist, for the educator a recognition of the existence of these forces, and some of their
characteristics and interactions, is sufficient.

Attention and will. It was noted above that an essential part of learning, and of interest is that the learner must respond. Obviously it would usually be physically impossible for one to respond to all stimuli at once; in addition, some stimuli become more insistent than others. Therefore it is assumed that some selective principle operates to secure the response to some stimuli rather than others.

On what basis then, is the selection to be made? Will it, for example, be hedonistic in origin; that is, will the organism respond only to those stimuli which seem to promise pleasure?

This is the problem of attention, the selection of one response rather than any other. As a psychological concept, attention is not so frequently dealt with as it was thirty years ago, while educationally it has become merged in the study of interest. However, in the study of attention important contributions have been made to the study of interest.

Attention was central to Herbart's interest psychology, as shown when he defined attention as 'a disposition to make additions to existing presentations,' and proceeded to distinguish voluntary and involuntary attention, the latter being considered much more desirable and productive. Herbart

21 Felkin, Letters and Lectures on Education, p. 136
22 Loc. cit.
said that the art of teaching consisted in developing it, and in it is contained the interest we have in view. Hicks also studied the problem carefully and concluded somewhat similarly that interest was not an unique an unanalysable relation between consciousness and its object — but a convenient symbol for indicating the complex set of conditions.23

One of the most important of these conditions was attention which other writers have usually described in terms reminiscent of Herbart's system.

Bagley, 24 for instance, gives a full discussion on attention, classifying it into three types ranging from simple response to stimuli, to highly complex and integrated systems resembling Allport's functional autonomy of motives.

The first type called 'primary passive attention' — 'the instinctive need to note the presence of moving objects in the environment' is an example of this type of simple response.25 It is very similar to Herbart's 26 concept of the origin of interest when he said that the mind's interest 'depended on the strength, variety, novelty, and varied succession of these phenomena,' and is also equivalent to a

25 Loc.cit.
contemporary writer's idea of involuntary attention as a function of the outer situation. It amounts to sensations provoked by stimuli strong enough to force the organism to apprehend them, although Hicks 28 appears to be on sound ground when he suggests that unless such stimuli have some connection with past experience there may be very little clarity of attention.

It may seem inappropriate to discuss next the most complex type of attention, and omit for the moment the intermediate type. This is done, however, in order to relate the former to a preceding point, and then, having described the two ends of the scale of attention to deal with the intermediate type, and thus show how the transition from the simple to the complex occurs.

The most highly developed type of attention Bagley calls 'secondary passive attention,' describing it as,

That form of attention which is given freely and without effort to an activity that makes for a remote end, and still does not 'fit in' with an instinctive tendency. 29

In the context of this sentence he appears to oversimplify the means of attaining this type of attention, ascribing the process to an extension of the law of habit, so that people could, according to Bagley, attain this type of attention.

28 Hicks, op. cit., p. 20
29 Bagley, op. cit., p. 145
even with something that originally was quite disagreeable.

The definition resembles Allport's functional autonomy of motives, but it is even more similar to interest as conceived by Aveling, who wrote,

> Interest, primitively connected with instinct, becomes in a derived form fixed to other than purely instinctive reactions.

He suggested fostering this change, deliberately isolating instinct from its old connections, and attaching it to a task significant in the mind of the individual. This undoubtedly is what Herbert meant when he said that the apperceptive aspect of involuntary attention consisted of the assimilation of new experiences with past ones.

An educational precept could be derived from this, showing the soundness of fostering germinal interest states and gradually developing them to independent status. It seems likely that very few children reach this stage because of the more ephemeral nature of their interests, a condition that is probably quite wholesome. Nevertheless, a degree of exposure to some great cultural achievements, in literature for example, should prove valuable in orienting an existing interest. This type of attention is considered the end-product, an important goal in education. Dewey would criticise the means used, unless there was more emphasis on

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30 loc.cit.
31 Aveling, loc.cit.
32 Folkin, Letters and Lectures on Education, p. 137
33 Dewey, op.cit., p. 90
the significance of the task mentioned by Aveling, but he would approve of the attainment of the goal, provided that it was within the limits of his criterion of growth.

Mention must now be made of the process intervening between attention at the perceptual level, dependent on external stimuli for motivation, and the autonomous level of independent interest. This middle type is described by Bagley as 'secondary active attention', and he finds in it the essential characteristic of human beings — the ability to plan ahead, and adapt one's adjustments to future events. This type of attention may be described as occurring whenever immediate stimuli are ignored, that is, beyond the stage of primary passive attention, in favour of a more remote goal.

Such a goal however is not as self-sufficient as the goal of secondary passive attention, but is dependent for its clarity on such factors as neatness, vividness, and accompanying affect. Bagley shows that education makes use of such a concept by introducing goals that are not too remote for the child, such as the grading of classes, progressions in learning, and promotion by examinations. No doubt this is largely an administrative expedient, but Bagley gives this additional rationale for it,

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34 Bagley, op.cit., p. 141
The remote end of education is far too distant and abstract a conception for even fairly mature students to grasp, much less little children in the early stages of the process. 35

This type of attention is not as frequently mentioned as the other two, but is discerned as 'habitual attention' in the four-fold classification used by Stagner and Karwoski. 36 They postulated a main division of attention states into those dominated by external stimuli on the one hand, and by internal stimuli on the other. They then subdivided each of these into respectively involuntary and habitual, and voluntary and anticipatory. They maintained that in habitual attention,

...are oriented towards outer stimuli, but the real basis for our attention is in our motives, mental sets, habits-- 37

Now it may be validly asked whether the genesis of this type of attention is similar or nearly similar to that of the other two types, higher and lower. Certainly there appears to be a large amount of 'intellectual content' in secondary passive attention as discussed. How then does the transition occur, if it does at all, from the level of almost pure sensation in primary active attention, through the intermediate secondary active type, to the cognitive level characterized by secondary passive attention?

While Dewey would emphasize that the motor response to a stimulus contains within it the seeds of intellectual attention and interest, others have attributed the development to a process known as will, or volition.

35 Ibid., p. 443
36 Stagner and Karwoski, loc.cit.
37 Loc.cit.
This has been called an innate power of the mind by the proponents of the old faculty psychology, a standpoint that Allport 33 shows is not tenable today. Aveling, 30 without embracing faculty psychology, recognises the existence of the will by referring to it in a broad sense as 'including all forms of conation or strivings towards ends'. He recognised the definite limits to its power, 40 as for example when a violent stimulus arouses one from the most absorbing book, and was emphatic that what is commonly called will-power is nothing more than concentrated and undivided attention, presumably of the intermediate type. 41 He further comments that in a difficult task introspection reveals no entity 'will,' nor in fact anything more than a 'consciousness of act'. 42

In a more educational context, Burnett and Fear mention the importance for volition of the self-negatory attitude usually accepted by a pupil in his relationships with a teacher. Although they do not deny the necessity for voluntary effort, they maintain,

That when there arises a clear choice between making or not making an effort, the original inner acceptance of the working and learning situation, and the habit of

33 Allport, op. cit., p. 249
30 Aveling, op. cit., p. 62
40 Ibid., p. 136
41 Ibid., p. 92
42 Ibid., p. 138
obedience, will weight the choice on the side of effort.\textsuperscript{43} This, they say, economises volition, reduces mental fatigue, and often introduces a supportive atmosphere of favourable affect that no text-book can equal.\textsuperscript{44}

It is, however, at least doubtful whether this is the 'force' that operates in a situation involving a choice between two courses of action, both of which seem very attractive, a situation that must occur at some time in attending. Some psychologists prefer to solve this by postulating some such supreme arbiter as McDougall's crowning sentiment of self-regard, or Freud's super-ego.

The general consensus however appears to be some measure of agreement with Murphy when he suggests that,

We are guided by what we have learned about the outcomes of various types of procedures, and symbolise these various possible outcomes in such a way that finally one course seems better to us than any other. Even so, considerable effort may be necessary in seeing the thing through.\textsuperscript{45}

This is very close to Miller and Dollard's theory of secondary drives being 'the joint operation of psychological variables under the pressure of social conditions', built up from a stimulus - response level. Moreover too, used the effect of a response to explain volition, when he wrote that

\textsuperscript{43} Isabel Burnett and T.H. Fear, "Motives in Acquiring Skill," \textit{Br.J. of Psych}, XVI (October, 1925) 33

\textsuperscript{44} \textit{Loc. cit.}

\textsuperscript{45} Gardner Murphy, \textit{An Introduction to Psychology} (New York: Harper Brothers, 1951), p. 139.

\textsuperscript{46} Miller and Dollard, \textit{Loc. cit.}
willing, 

Seemed to be determined on the basis of which 'pure stimulus act' aroused the strongest anticipation of reward and the least anticipation of punishment.47

For Hicks, the problem was virtually insoluble. He simply called this initial power of concentrating one's energy, a complicated and highly developed modification of the fundamental process of apperception.48

Such postulates as these reduce volition or choice to the level of learning by trial and error, or to that of habit formation, and contain besides, an effective component that is strongly reminiscent of Herbert's theory. Even admitting that human beings do readily form habitual modes of action based on past experience, one would expect to discover some 'higher' principle occasionally operating. Aveling's concept of the process of choice appears to move a little in that direction. It is not in fact very far removed from Murphy's or from Mower's ideas, but it appears to be elevated, perhaps only semantically, by the use of the concept of value.

Objects and actions possess a value in relation to ourselves, and we come to our choices with a scale of values already created by past experience. These values correspond to our instinctive needs and to the acquired wants which are built up on them.49

47 Mower, op.cit., p. 442
48 Hicks, op.cit., p. 7.
49 Aveling, op.cit., p. 202
Although this still seems to be a much 'lower' level for determining a choice than Allport's functional autonomy of motives, it does seem to approximate to ordinary experience. To pursue the topic further and ask whether this is the highest motive that should be used is to become involved in ethical questions which are irrelevant here.

Finally, Allport points out that the whole of the available data on volition and attention is basically the product of introspection with all its well-known defects, so that the consensus of opinion must be taken with this factor in mind.

II EXTRINSIC MOTIVATION

Classroom teaching and pupil learning can never be reduced merely to the presentation of subject-matter. Teachers must take account of children's motives for learning and endeavour to utilize those motives to the best advantage; teachers may also create motives. Stimulation by means of extrinsic devices has been proved useful in a sufficiently large number of learning experiments to warrant, for the moment, a disregard of the relative pedagogical value of such experiments.

To ask rather, how can extrinsic motivation be most appropriately used, gives a more useful starting point. The question is still a difficult one because of the large amount

50 Allport, op.cit., p. 234
of social learning involved, learning which may vary greatly from one individual to another. For example the value to a child of such stimulational methods as putting a stamp on a book could be greatly reduced by strong parental influences.

**Reward and punishment** Experiments have shown that the use of rewards undoubtedly benefits learning. The rewards used in schools such as class places, quantitative marks, and stamps, derive most of their value as goals from the social significance they have acquired as promoters of social status. Such a simple reward as praise usually has this characteristic also, so that children rapidly learn to seek the rewards offered. But there are divergent views as to how rewards act to improve learning.

In Thorndike's 51 opinion, for example, rewards acted in simple fashion to strengthen an associated action; while punishment did not act in a directly opposite way, it did sometimes have an indirect effect in making the learner do something else which was likely to confront him with a reward. Hull, 52 however, explained reward and punishment in terms of need reduction — the reward of food was said to relieve

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52 Ibid., quoting Hull, p. 195
hunger tension, and escape from shock was said to result in the reduction of shock tension. The aim always was the reduction of tension or need.

While other theorists take different positions, there is considerable agreement on the beneficial effects of rewards, and the somewhat dubious effects of punishments. However, Lewin's notions are exceptions, mainly because they add important postulates to the reward-punishment concepts. In considering real-life situations as his problems, Lewin believed that the whole structure of the situation was important, and thus developed the concept of barriers. He showed that the inclusion of psychological barriers of authority and social pressure were necessary to keep the learner in the field, and to prevent him from reaching the reward or avoiding the punishment by circumventing the required task.53

Other concepts pioneered by him were ego-involvement and level of aspiration. The level of aspiration is simply the goal set by the learner himself; it may coincide with the goal set by the teacher, or it may fall above or below it. If the learner feels that he has the capacity to reach the goal, he will become ego-involved. That is, he will

feel the challenge of the goal and accept it as worthy of achievement. However, if the goal, although within his capacity, is considered unworthy of achievement, that is, if it is too simple, no such feeling of challenge will be experienced. Lewin considered that it is upon these concepts that feelings of success and failure depend, and thus that it is only within such a framework that reward and punishment will properly act. 54

The relevance of this to school practices can be readily seen. It will be easy for the teacher to hold the interest of the children if they can all be ego-involved in the lesson, and thus feel that the material is relevant to them, and within the range of their abilities. Conversely, it will be difficult for the teacher to hold the attention of a class having a very wide range of ability, or in presenting material that is much too difficult or much too simple, or the meaning of which is not clear.

Despite the experimental evidence of the effects of rewards on learning, the meaning of a reward is so varied, and so overlaid with social learning, that more than one kind of reward must be described. It is unfortunate that many of these experiments seem designed to confirm prior hypotheses, and consequently lack much of the reality of problems such as those

54 Ibid., p. 236
with which Lewin has concerned himself. Again, such experiments must be carefully controlled if the results are to be worth anything; and yet Ross questioned the value of this very strictness of control. He suggests that, in the monotony and the novelty of the laboratory situation, the addition of a single control factor gives the learner an incentive that he would probably not accept so readily in the psychologically more complicated situation in a school room.  

Then too, one cannot always be certain that the reward offered means the same thing to each of the learners. Nevertheless, adequately controlled and standardised groundwork is necessary to provide a basis which will allow for the full development of a valid theory of reward having relevance to life situations.

The use of extrinsic rewards in ordinary school situations has, unfortunately, several undesirable aspects besides the presumably valid ones of promoting learning efficiency. These defects are adequately discussed by Hilgard and Russell, chief among which is the possible rise of the attitude, "What am I to get out of this?" Then there is the question of what happens to those who consistently fail to attain any of the rewards offered. Are they to be offered the sop, "You tried hard," or are they expected to cultivate a

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55 Ross, op. cit., p. 616
56 National Society for the Study of Education, Learning and Instruction, p. 48
protective shell of indifference?

Rewards, being competitive, affect a minority, because naturally the reward value goes out if all share in the same recognition. This effect is partly minimized by the use of group competition, but may possibly be eliminated by the laborious process of devising a sufficient number of reward situations to give each child a chance of success. Hilgard and Russell mention also the possible psychological harm, done by an over-emphasis on extrinsic rewards, in encouraging extreme docility and deference to authority in always doing precisely what the teacher expects, rather than exhibiting some originality and spontaneity. 57

Reward and punishment are usually considered as complementary, although to some extent opposite, parts of a theory of learning. Punishment however, is in an even less secure position than reward for obtaining a consensus of opinion. For example, if, as Thorndike suggested in supporting the law of effect, there is a simple strengthening of connections between a response and its reward, 58 does punishment thereby tend directly to inhibit responses? The answer seems to be a general assent, although this is far from

57 Loc. cit.
58 Thorndike, loc. cit.
covering certain positive aspects of the action of punishment.

Mowrer, for instance, writes,

An important step towards the elimination of objections to the law of effect as a universal theory of learning, has resulted from the repudiation of that sub-principle which holds that stimulus-response connections are weakened by annoying or painful consequences — it is possible to show that painful stimuli can be used to create and strengthen connections instead of weaken them. 59

Such a view supports ego-involvement as part of the law of effect beyond the position that Rice 60 prefers when he favours the satisfactions derived from rewards. Allport, 61 concluding a symposium contributed to by the two previous authors, minimises greatly the effects of satisfactions and dissatisfactions, saying that they are at the highest level only cues, 'of quite secondary importance, and often disregarded.' He believed that the effectiveness of these states depended mainly on the interests comprising the ego-structure of the individual. 62

Lewin, on the other hand, emphasised satisfactions and dissatisfactions strongly. Describing the conflict arising in a punishment situation, he said that, to prevent the learner's withdrawal from both the task and the punishment, barriers of social force must be established. The individual


62 Ibid., p. 347
may even then choose to accept the punishment rather than to perform the task, in which case the punishment has failed as a deterrent. This is Allport's point. In the case of reward, the required task may be considered as being between the individual and the reward. Less policing is required than in the case of punishment, but some barriers must be maintained to prevent the individual from reaching the reward without first performing the task.

Having studied the strength of the forces acting on individuals in such situations, Lewin suggested that the reward or punishment situation could best be eliminated by changing the meaning of the activity. He illustrates this by citing the case of a subject in a medical setting doing things he would definitely refuse to do outside such a situation. Similarly, if a certain school lesson has come to mean a period of unpleasantness for both teachers and children, it may require more than easier work to change that attitude.\(^{63}\)

Although reward is not a completely satisfactory agent of learning, it is much to be preferred over punishment, the effects of which are much less certain, while it is generally considered more deleterious to mental health. At least part of the reason for the lack of knowledge is that the results of

animal experiments are not always readily applicable to human learning, and it would be difficult to uphold an experiment on human beings designed to compare the effects of methods of punishment, unless only those mild in effect were used.

Some major objections to punishment as a motive for learning school work are set out clearly by Hilgard and Russell. Apart from those mentioned, they note, with careful reservations,

The results of punishment are said to be less permanent, so far as learning is concerned, than the results of reward -- Punishment under some circumstances tends to fix the punished behaviour rather than eliminate it.64

The same authors proceed to mention two main cases in which punishment may be useful. The first is when punishment, particularly by natural consequences such as receiving an electric shock through faulty handling of electrical apparatus, is combined with a reward such as instruction in correct handling.65 Thorndike supports this view. Prescott too, describing an experiment by Warden and Aylesworth on the punishment of rats during learning, commented that too much unpleasant affect caused complete withdrawal from the situation. He concluded however,

64 National Society for the Study of Education, Learning and Instruction, p. 49
65 Ibid., p. 50
66 Hilgard, loc. cit.
Punishment for wrong responses, coupled with the satisfying of a need at the end of correct behaviour resulted in by far the fastest learning of the correct behaviour.67

The second case cited by Hilgard and Russell occurs when a child’s anxiety mounts to a tremendous pitch as he behaves provocatively in order to see how far he can go. Punishment, at an appropriate point, not only reduces his anxiety, but defines the limits of what is allowed.68

Hopkins 69 supports both of these suggestions and adds some of his own. Important among these is his opinion that, to put the onus of good behaviour on a child of less than twelve years, is to impose a responsibility that 'the powers of childhood are not sufficiently developed to support.' He makes an important point too in his consideration of the qualities of the teacher in adequately transferring his authority to the children.70 Finally he notes that 'the attitude of children towards punishment changes with age and education,' and that the period of the onset of puberty is one requiring special attention.71 The findings of Highfield and Pinsent, based on the opinions of thousands of school people, were overwhelmingly in favour of the retention of the

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67 Prescott, op. cit., p. 167
68 National Society for the Study of Education, Learning and Instruction, loc. cit.
70 Ibid., p. 27
71 Loc. cit.
the power of corporal punishment, and discussed at length various incentives and deterrents used in schools.72

It is noteworthy that the uses of punishment discussed thus far deal in some cases with the actual learning situation, and in some cases with the behavioural problems associated with learning. Certainly the latter type of problem profoundly influences learning, but it is not strictly relevant to the mechanics of learning.

Theoretical and experimental evidence of the influence of extrinsic interest on learning has been considered here under the broad heading of reward and punishment. However, in this broad grouping there are two other main kinds of extrinsic factors—knowledge of results with its accompanying feelings of success and failure, and rivalry and competition, similarly qualified. Praise and blame are considered also both as aspects of the main heading and as concerning the subsidiary groupings. Each of these two aspects, knowledge of results and rivalry and competition, are considered to contain implicitly the main features of reward and punishment, so that what is said of reward and punishment is considered equally applicable to them.

Knowledge of results. It has been established with reasonable certainty that to give a learner a knowledge of his progress, even by an arbitrary method having no relation to the true merit of the work, is to provide an incentive which motivates the learner to try to maintain or improve his rating. Since 73 defined the field of incentives more exactly as the area between the level of performance and that of maximum capacity.

Testing his college students, Ross found that by giving them the incentive of an initial knowledge of results, they made an improvement which was, relatively continuous, and measurably self-sustaining, persisting undiminished through the remaining practice periods in spite of the fact that no further knowledge was given. 74

Ross had earlier criticised a similar experiment by Bock in which he changed the instructions given to the two groups after ten trials, so that those who knew their achievement scores and those who did not know, now were in the reverse positions. The result here was that the 'Full Knowledge' group, which had been noticeably improving in performance, fell off abruptly, while the 'No Knowledge' group improved noticeably. Ross

73 G.A. Mace, "The Influence of Indirect Incentives upon the Accuracy of Skilled Movements," Br. J. of Psych., XXII (1931) 144.

74 Ross, Op. Cit., p. 611
believed that the instructions used at the change-over had acted as a positive suggestion for the 'Full Knowledge' group to slacken their efforts. 75

He himself found little change in the rate of progress on a reversal of the instructions. He discovered that the use of such a method of incentives in class with his college students affected their work but little, and partially accounted for this by finding the student's estimates of their own work to be reliable. 76

Substantially similar results to these were gained by Brown 77 who affirmed as a corollary that a teacher should never fail to correct a child's paper. He maintained further that the incentive provided by a knowledge of results was of little use to children unless emphasised by some such method as graphing. Fay 78 conducted similar experiments, using college students as subjects, but had his subjects graded according to the initial test. He too gained similar results to the two previous experimenters. Working with a sample group of specially selected difficult children, Highfield and Pinesent 79 also found that 'being given good marks for written work' rated highly as an incentive.

75 Ibid., p. 643
76 Loc.cit.
77 P.J. Brown, "Knowledge of Results as an Incentive in School Room Practice," J.of Ed. Psych., XXII (1932) 551
79 Highfield and Pinesent, op.cit., p. 172
There is little literature available concerning the long-term effects of such incentives as these. Prescott describes an experiment by Sullivan designed to measure the effect on recall of a knowledge of failure. Sullivan found that, not only is the time taken to learn increased by a knowledge of previous failure, but that,

the value for recall, measured by the abbreviation of the time taken to learn, is less in the case of the failure report and greater in the case of the success report.80

Bartlett sums up most aptly, describing the improved efficiency resulting from the use of such incentives. He then proceeds to comment on important differences between such incentives and what he calls 'targets of performance,' where by means of an incentive a greater output was aimed at after a subject appeared to have worked to capacity. The former is internal to the operation, and begins to work as soon as the task is entered upon, while the latter becomes effective only as the end is approached; and, since it is proportionate to the nearness of the goal, may give an opposite result to the one desired, if the reward appears for some reason to be unduly delayed. In this comparison, the first type of incentive appears almost to approach the criterion of an intrinsic reward.

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80 Prescott, op. cit., p. 166
The feelings of success and failure are important factors in the use of knowledge of results as an incentive. The feeling of success attending the completion of a task can be understood only in terms of what goal the individual has set himself. If his level of aspiration is realistic but still below the standard set by his group, he may experience the feeling of success on reaching his own goal, unless the demands of the group are very exacting, in which case a sense of failure may be the result.

The effects on personality of repeated experience of failure are listed by Sears,32 and include a decrease in general interest and effort, and increase in day-dreaming, a reduction of social responsiveness and non-adjustive behaviour. If the method of goal-determination, on which the feelings of success and failure depend, is in a truly co-participant sense involving teacher and pupils, then, according to Trow33 and his colleagues, the degree of emotional interference with learning will be greatly lessened.

There are various degrees of goal achievement, such as progress towards the goal, and reaching the vicinity of the goal, but Lewin maintains that

By and large the experience of success and failure occurs only in a limited area of difficulties which is close to the

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boundary level of the ability of the individual. This is almost identical with the field of incentives defined by Mace. Nevertheless, the excessive experiencing of either success or failure may be due almost entirely to unrealistic goal-setting, that is, at such a low level that success is always the outcome, or at such a high level that only failure is the result. A reasonable amount of each would be more wholesome.

The effects of such phenomena as these are shown in one of the most celebrated experiments on the use of verbal incentives as extrinsic methods of motivation. Hurlock compared the effects of praising, reproving, and ignoring groups of fourth and fifth grade children equated for average age, ability on the initial test, and the number of boys and girls in each group. Previously she had found, after one application of praise and reproof to two equated groups, that the two methods were of equal value. This time she formed four groups and kept the control group separated from the other three, praised reproved, and ignored, which she had working in the same room. The children were adding numbers for five trials on consecutive days. Regardless of the results handed in, the praised group

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35 Supra, p. 72.
was praised in front of the whole class, the reproved group was likewise reproved, while the ignored group, although in the same room was not mentioned. 87

The results obtained are best studied in a table:

TABLE I

Average Scores of Groups of Fifth Grade Children Motivated by Various Methods

<table>
<thead>
<tr>
<th>Group</th>
<th>1st Day</th>
<th>2nd Day</th>
<th>3rd Day</th>
<th>4th Day</th>
<th>5th Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>11.81</td>
<td>12.34</td>
<td>11.65</td>
<td>10.50</td>
<td>11.35</td>
</tr>
<tr>
<td>Praised</td>
<td>11.84</td>
<td>16.59</td>
<td>18.85</td>
<td>18.61</td>
<td>20.22</td>
</tr>
<tr>
<td>Ignored</td>
<td>11.84</td>
<td>14.49</td>
<td>13.30</td>
<td>12.92</td>
<td>12.38</td>
</tr>
</tbody>
</table>

The second day's scores show confirmation of Hurlock's previous experiment with the praised and reproved groups. While the ignored group improved somewhat it may be that there was some transfer of suggestion from the other groups. On the third day however a greater divergence appears in the scores, the praised group achieving still higher scores, the reproved group falling back and the ignored group similarly failing to

87 Ibid., p. 145
improve. This pattern is maintained through the remaining
two days of the experiment. 38

Hurlock's summary of results not only brought this out
but also supported Fay's 39 contention that students of lower
intelligence are more responsive to praise than those who are
more intelligent. Hurlock's results for boys and girls in
each group showed that, in both cases, praise was more
effective than reproof. 30

While intelligence is thus a factor to be considered,
another has been shown by Thompson and Hunnicutt. 91 They
found, as Hurlock did, that praise or blame are at first
equally effective in motivating work, but the repetition of
these devices has an effect which varies according to the
personality of the pupil. Having rated their pupils for
introversion-extroversion, they conducted their tests, and
concluded,

If repeated often enough, praise increases the work
output of introverts until it is significantly higher
than that of introverts who are blamed, or extroverts
who are praised. If repeated often enough, blame

38 Ibid., p. 146
39 Fay, loc. cit.
90 Hurlock, op. cit., p. 159
91 S.C. Thompson and C.W. Hunnicutt, "The Effects of
Repeated Praise and Blame on the Work Achievement of Introverts
and Extroverts," J. of Ed. Psych., XXXV (May, 1944) 257-266
increases the work output of extroverts until it is significantly higher than that of extroverts who are praised, or introverts who are blamed.92

Ferraro and Axelrod, 93 previously conducting a similar experiment, likewise concluded that praise and blame should be used with discretion.

**Rivalry and competition** The Jesuit teachers effectively demonstrated the value of rivalry and competition as incentives. Various kinds of competition are used today, the most common being competition between groups, competition between individuals, and competition with one's own results. This last kind may operate as a special case of improving by knowledge of results, as when children are encouraged to 'try to do better next time.'

Hurlock 94 found that inter-group rivalry was a successful method of motivating learning, but qualified this general statement by noting that it worked more successfully with younger children and with those less gifted intellectually.

In order to compare two types of motivation, Sims 95 formed three groups or sections. The first section, the

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92 Ibid., p. 266.


control group, had no motivation other than that which came from seeing their own progress and that of their neighbours. The second section was divided into two groups, approximately equal in ability as shown by the initial score. The children in these two groups knew the previous scores of both groups and were exhorted to make their group win. The third section was individually motivated, that is, there were pairs of children in competition with one another. Scores of all pairs were read out and graphed; and in addition the three best and the three worst in this group in improvement were read out separately and praised or blamed. Each child was encouraged to beat his rival. There were two different experiments, one for reading and one for substitutions, each of twelve trials.

The results of this experiment, in terms of improvement in performance, are shown in Tables II and III. They merit little comment except a note of the vast superiority of the individually motivated group over each of the other two, and the small difference found between no motivation and group motivation methods.

96 Ibid., p. 490
### TABLE II

**Percentage Improvement in Reading of Groups of Fifth Grade Children Motivated by Different Methods.**

<table>
<thead>
<tr>
<th>Section 1</th>
<th>Section 2</th>
<th>Section 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No motivation</td>
<td>Group motivation</td>
<td>Individual motivation</td>
</tr>
<tr>
<td>102.2%</td>
<td>109.9%</td>
<td>157.7%</td>
</tr>
</tbody>
</table>

### TABLE III

**Percentage Improvement in Substitutions of Groups of Fifth Grade Children Motivated by Different Methods**

<table>
<thead>
<tr>
<th>Section 1</th>
<th>Section 2</th>
<th>Section 3</th>
</tr>
</thead>
<tbody>
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<tr>
<td>102.2%</td>
<td>109.9%</td>
<td>157.7%</td>
</tr>
</tbody>
</table>
The conclusions regarding efficiency of learning are too obvious to mention. Sims, however, wanted to undertake further experiments designed to test the degree of permanency of such learning. She also wanted to find out whether improvement under such conditions would transfer to other situations involving reading.97

**General effects** This is a most pertinent point for the whole of the knowledge on extrinsic methods of motivating learning. It is one that Tolman 98 raises when he affirms that reward and punishment tend to regulate performance rather than the acquisition of knowledge. Such a viewpoint seems reasonably well supported by the experimental evidence cited. In most cases the conditions of the experiments aroused social motives which provided a spur to retain or manipulate knowledge with which the individuals were already familiar.

Undoubtedly many school situations resemble these settings. The consolidation of knowledge by practice or drill, as opposed to teaching new work, is a necessary feature of practically every school day. The experiments discussed

98 Hilgard, quoting Tolman, *op.cit.*, p. 288
certainly show the value, in terms of efficiency, of using such methods. In passing, it may be mentioned also that it seems likely that extrinsic methods of motivation could be useful in establishing some of the conditions for learning new material, such as neatness, and accuracy.

Confirming the view that extrinsic methods motivate performance rather than learning, Hace 99 found experimental evidence that 'rewards and penalties may be detrimental to fine adjustments and to precision in co-ordinated movements'. He thought that the ideal method of stimulating effort was to introduce factors which he called indirect incentives, which would 'modify favourably the primary and central intention, without creating secondary objectives'. 100 This of course would be rather difficult to do, but Hace 101 proposed placing some onus on the learner to gain an implicit standard, that is, what the learner would consider a 'fair shot.' This could probably be best done by the co-participant method of goal-determination suggested by Trow. 102

No matter what theory or combination of theories of learning is espoused, it is difficult to escape the conviction that on the whole extrinsic methods of motivation provide only

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99 Hace, op. cit., p. 102
100 loc.cit.
101 Ibid., p. 103
102 Trow, et al., loc.cit.
some conditions for allowing performance to operate efficiently.

Such a conclusion seems warranted also by the results of some experiments on latent learning. Unfortunately such experimental data chiefly concerns animals, but the agreement of the results may be considered to have some value. McCorquodale and Meehl 103 found that rats, running a maze while satiated, later when motivated, showed evidence of having learned the location of food and water. Hilgard 104 quotes the experiment of Tolman and Monsik, in which rats which had previously not been rewarded reduced their learning errors immensely on being rewarded. Hilgard sums up thus:

The learner shows what he 'knows' only when motivated to do so; the relationship between the motivation and the learning is not at all direct. 105

IV INTRINSIC MOTIVATION

The second broad division of the types of interest which motivate school work is called intrinsic interest. Although the criteria of extrinsic interest have been discussed, it is necessary to recall them in order to show adequately the real differences between the two types.

Extrinsic interest in learning occurs when apart from the knowledge to be gained or the skill to be acquired, an


104 Hilgard, quoting Tolman and Monsik, op. cit., 283

105 Ibid., p. 274
additional incentive is used to spur the learner to put forth as much effort as possible. Intrinsic interest is more difficult to define, but in accordance with its frequent usage it is considered to arise from a particular quality of the material studied, which by itself moves the learner to want to acquire it.

In actual fact, intrinsic interest, which was Dewey's 'genuine principle of interest,'\textsuperscript{106} was founded on a more external basis than this. This interest was considered to be the utilization of material for a purpose specific to the learner, and intermediate between the individual and the goal to be attained. Dewey defines this kind of interest as,

\begin{quote}
The identification through action of the self with some object or idea for the maintenance of a self-initiated activity.\textsuperscript{107}
\end{quote}

This means simply that, once a goal has been accepted as worthy of achievement, then it is genuine or intrinsic interest which moves the individual to try to attain the goal.

To be interested in work just for the sake of work Bagley pointed out,\textsuperscript{108} can be a sterile affair, resulting in mechanical performance, divorced from any fullness of meaning.

\begin{flushright}
\textsuperscript{106} Dewey, \textit{Interest and Effort in Education}, p. 7
\textsuperscript{107} Ib.\textsuperscript{d}, p. 14.
\textsuperscript{108} Bagley, \textit{op. cit.}, p. 145.
\end{flushright}
which would ensue if the work intervened between the individual and a desired goal. It is thus apparent that intrinsic interest is not concerned with a mysterious inner quality of the material to be learned or used; it implies, rather, a relationship existing between the activity of the individual and a purpose which he has in mind. By this analysis, it cannot be said that any subject or activity of the school curriculum is intrinsically interesting by itself; it must be an intermediate step to something else to acquire that quality.

It will be temporarily assumed, for the purposes of argument, that 'intrinsically interesting' means approximately the same as 'naturally interesting'. This is in order to discuss Lee's \(^{109}\) list of four areas of learning, to which, he says, children naturally react with interest. He names physical activity, the use of tools, mental activity, and the activities of people around them. This list is inclusive of practically all children's interests, but it is more important as a better example of the numerous and detailed lists of things children are said to be naturally interested in. The compilation of these lists was partly an outcome of the normative study of child psychology, and partly a step towards

evolving a curriculum with a basis of children's interests.

The former source of these lists has gained much from the resulting concept of levels of development based on data other than that of chronological or mental ages of children. Even here, however, knowledge of the strong influence of secondary learning has made educators and psychologists much less sure of the true origin of these interests. Lewin 110 for instance, considered that even the characterizing of an interest in numbers as a natural interest is not justified. It may have resulted from living in a definite metropolitan milieu, or it may have been derived from more original needs. This question of origin was more fully developed earlier in this chapter.

The second use made of these lists, that of formulating a curriculum based on them, frequently had unfortunate consequences when teachers endeavoured to use them in that way. Children's interests were often thought to be a panacea for all difficulties of stimulating children in school work, because teachers could thus dispense with extrinsic devices, such as rewards and punishments.

The dependence of a curriculum on interest thus

conceived was unsound, because of the lack of cohesion arising from the miscellaneous nature of the items. Children's interests are varied because they are largely dependent on experience, and only a minor degree of common ground among them can be found, so that such a curriculum would be very narrow in scope. Lee 111 recognised these limitations as applying to the use of his own list as a basis for the curriculum. Mohr 112 limited the value of children's interests to the status of points of departure, and noted the schools' responsibilities in enlarging and expanding those interests of educational value. Also, the nature of any one interest is often of doubtful teaching value, because as Mursell 113 said, 'it tends to be trivial and inconsequential.' Dewey 114 too, criticised the over-reliance on children's interests alone, as leaving the child 'without definite command of his own powers or clear consciousness of purpose'. This is an observation which common experience confirms, by noting both the fact that children often change their interests, and also the cursory attention to them which is a frequent characteristic. This is not to condemn the encouragement of diverse

111 Lee, op.cit., p. 119
112 C.L. Mohr, "Child Development and the Social Studies," MI. Sch. J. XLIV No. 7 (March, 1944) 390
interests, but merely to recognize their educational limitations. It is from such exploratory activity that deeper interests often develop, their variety giving the child a wide base of experience which, taken as a whole, is very useful.

In general, it is true to say that the implication that interest in school work is based on children's interests, has been carried too far. It was, indeed, refuted many years ago by Dewey 115 in the very work in which he expounded the principles of interest, maintaining that interest as ordinarily conceived, that is, as opposed to effort, "means simply an excitation of the sense organ to give pleasure," having as an inevitable result either strain or listlessness. Concern with children's interests could be entirely dispensed with, for what Dewey 116 attached most importance to were the powers of children, their tendencies in action, and ways in which these could be advanced by given subject matter.

A second misinterpretation of intrinsic interest applied to school work, has been the frequent assumption that little was required of the teacher, except perhaps to provide the materials needed by the children in working through the topics of the curriculum. Certainly the teacher may often

115 Dewey, Interest and Effort in Education, p. 14
116 Ibid., p. 62
profitably leave the children to find things out for themselves, but it is also most necessary that he should have a clear concept of the aim of the work, and the main intermediate steps necessary for its fulfillment. In the role of guide and planner, the teacher, with his more extensive knowledge and experience, is indispensable, as descriptions of Dewey's own schools show. 117

Thirdly, in contradiction of the view that education based on true interest was easy, it was emphatically affirmed by Dewey 118 that effort was most necessary. It was, however, to be effort different from that with which drudgery is usually associated. Effort was to be energy enlightened by a strong sense of the desire and need to achieve a definite purpose, and by the knowledge that the work to be done would advance that aim. In the sense that effort is opposed to interest, Dewey 119 said, it forced a separation between the purpose and the work, which caused an habitual division of activities, that is, a vacillation between the drudgery of the task and something more interesting.

The endeavour to limit the meaning of intrinsic interest to manageable size is assisted somewhat by definition in these

117 Dewey, Schools of Tomorrow.
118 Dewey, Interest and Effort in Education, p. 44
119 Loc. cit.
negative terms. Obviously, a concept which has such broad connotations is most difficult to quantify by methods common to the educational or psychological laboratory. Thus few attempts have been made to compare the educational value of extrinsic interest and intrinsic interest.

One good reason for this is the learning by intrinsic methods does not lend itself so readily to the production of such clearly defined items, as is the case with extrinsic methods. For example, the teaching of addition of fractions by methods involving extrinsic interest could consist of a preliminary demonstration of the necessary procedure. This could be followed by giving the children some practice in performing the operation, and then by testing them by staging a competition to see who got the most answers right. An intrinsic approach, on the other hand, could consist of presenting a real problem in measurement, in which the addition of fractions is necessary, such as finding the total thickness of a piece of joinery. Then after ensuring that the children have accepted this as a meaningful goal, the onus could be put on the children of finding out the required method by experiment and discussion.

It is, of course, apparent from this example alone, that in normal teaching procedures it is very seldom that the two methods are distinct and separate. More often there is
a considerable intermingling of both methods, or an emphasis on first one and then the other. The principles behind each method are not sufficiently well defined by an example designed to show the difficulty of quantitative comparison.

Nevertheless, an experiment was carried out by Symonds and Chase, 120 which proposed as one of its stated objects to compare the effects of intrinsic and extrinsic motivation. The experimenters studied the effects of these motivational techniques on groups of children studying correct English usage. The control group worked without motivation as far as this was possible, the second group worked by 'test' motivation, and the third by intrinsic motivation. The second group practiced the learned material under conditions of extrinsic motivation. The method used for the third group was that of endeavouring to stimulate the correct use of English by showing the necessity for accurate and concise expression in certain occupations. 121

Results, in terms of scores in a standardised test of English usage, confirmed the general conclusion reached in the section dealing with extrinsic methods, namely that where previously-known material was being used as practice, extrinsic


121 Loc.cit.
motivation was most useful. Noting this, the authors 122 suggested that in their experiment the described situations, used as a method of intrinsic motivation, 'lacked entirely the motivating force to facilitate learning.' This experiment, although it thus failed to advance accurate knowledge of the effects of intrinsic as compared with extrinsic methods, did serve to underline some of the difficulties involved.

What use then can be found for using intrinsic interest in learning in schools? Dewey's answer would be that the school, being ideally almost continuous with society, would find its problems from social experience. These it would solve by experimentation and the democratic interchange of knowledge and skills, with intrinsic interest as an integral part. Interest here, however, is just a portion of a complete philosophy of education, and such an answer would not apply to all types of schools because of many differences in the aim of education alone. A fully developed statement of the place of intrinsic interest in New Zealand schools, for example, would take account of a large number of factors.

Thus, such a question as the content of the curriculum would obviously need to be fully answered, before the best use of intrinsic interest could be considered. The factor

122 Ibid., p. 34
of the content of the curriculum, however, is in turn dependent on other factors, such as those quoted by Lee.

1. What is the nature of the learning and educative process?
2. What is the nature of the individual?
3. What view is held in regard to the growth of personality?
4. What are the special functions of the school?
5. What is the accepted theory of the structure and processes of society?
6. What is the meaning of life? 123

Washburne124 described the bi-polarity of what he considered were the two main approaches in determining the content of the curriculum, on the one hand, the requirements of learning a body of facts, and on the other, concern for the development of the child. He125 criticised the weaknesses of both positions, especially the first with its lip-service to functional learning, and then proposed as the sole criterion for curriculum selection, utility, considered in a very broad sense. In modification of this, he126 proposed making such adjustments as treating safety education as prior knowledge, and eliminating items learned incidentally.

123 Lee, quoting Counts, op. cit., p. 182
125 Ibid., p. 224
126 Ibid., p. 225
This is an example of a method of determining the basis of a curriculum, but one which is not fully shown here. Intrinsic interest in school work is a facet of a whole educational philosophy, a characteristic which is not currently shared by extrinsic interest. The latter was historically an essential part of an educational philosophy which stressed, among other things, the assimilation of difficult subject-matter, often by means of material rewards or severe punishments. It is now a possible adjunct to more than one educational theory. The considerations which determine intrinsic interest are more complicated than this, so that the best that can be done at this point is to discover some broad recommendations which seem to find general acceptance among theorists.

Pedagogical factors Once the content of the curriculum is determined by some of the factors mentioned, the teacher is faced with the problem of implementing it. The use of activities, or centres of interest in teaching have shown that if children initiate activity on topics such as running a newspaper, or have the topic initiated for them, they will work industriously and with interest on problems that are contingent on the main topic. The other main method of transmitting the curriculum is by dividing it up into subjects, and treating each one more or less separately.
Regardless of how the curriculum is to be implemented however, there need to be some criteria for its effectiveness. These criteria are ultimately based on philosophical rather than pedagogical grounds, but may be briefly referred to in the latter sense.

Dewey’s 127 criteria, of course, are familiar; the curriculum arises from social experience, the problems are social problems, and they are solved socially. Nevertheless, Dewey had some of his schools working on state-prescribed curricula under the conditions of intrinsic interest as he conceived it.128 This he achieved by relating the curriculum to the experience of the child, and provided for activity by creating situations wherein the powers of the child could develop towards the foreseen ends. Thus, insofar as a curriculum allowed for the relation of child experience and activity to what were considered essential experiences, skills, or knowledge, it satisfied one of the conditions of intrinsic interest, and to that extent was effective.

This did not necessarily mean a shallow approach to learning, or a method providing mere snippets of unrelated

127 Dewey, The School and Society, p. 103
128 Dewey, Schools of Tomorrow, p. 74
experience. Blair 129 pointed out the importance of avoiding these errors, and of selecting materials, activities, and problems which were directly related to the stated educational objectives. He 130 added four standards of judging the effectiveness of the curriculum, criteria with which most educators would probably agree, in whatever direction their educational aims lay. These are standards of operation, but do not provide full criteria of formulation. Blair said that an effective curriculum was one which,

1. makes provision for varying maturity and experience levels of pupils,

2. gears learning activities to the needs and goals of pupils,

3. provides projects, problems and units of experience which possess meaning and structure for the pupils, and

4. carefully selects and appraises projected pupil activities in terms of their transfer value to life situations.131

An important issue that must be faced in educating children is the degree to which the provision of opportunities for growth, favoured by the proponents of the activity method, is to outweigh the imposition of certain standards of behaviour and attitude on children. Again, the answer to this

130 Loc.cit.
131 Loc.cit.
depends on one's basic educational outlook. Yet it can scarcely be denied that in such matters as road safety, health, and correct speech, some teaching by other than intrinsic methods is necessary. The necessity for care in crossing the street, for instance, cannot safely be left to real-life situations. Some prior training in care and observation must be given.

It is important to know how far a purely functional approach to teaching such requirements, or others, would be effective in modifying the child's behaviour. Symonds and Chase 132 discussed this question and concluded that enough real situations cannot be created to teach all that is desired to teach even at the elementary level. They suggested that much of the learning considered valuable by school people would have to be either omitted or postponed indefinitely, if true intrinsic interest had to be relied on.

Much of the efficiency and pleasure of living as social beings comes from learning things which can only be appreciated after they have been learned.133

They did not thus, however, take an unwarranted all-or-none position on the question of the transmission of social experience. It would be difficult to maintain that the curriculum is a body of skills, knowledge, and appreciations which can be passed on by one method exclusively. If the

132 Symonds and Chase, op. cit., p. 35
133 Loc. cit.
child being taught road safety by constant instruction and training in crossing the street correctly, has this knowledge supplemented by the example of others, there is no reason why such a method should be considered unsound. Equally, however, such a method would hardly be adequate for manual training, where practice in developing skill is needed, and may usually best be motivated by the construction of something useful.

Kilpatrick 134 showed that there are degrees of acceptance of the activity principle in education, from the admission that a little activity might be helpful, to a firm conviction that the final aim of education is as much highly individualised activity as possible.

It may be that what is needed most is some movement from each of these extremes towards the mean. Thus, the more mechanical elements of the curriculum, such as arithmetic, might profitably be even more fully related to life situations, while not neglecting the desirability of building a sound understanding of numbers and their relationships. Speaking of this, Hurd 135 said that the answer to traditionalists asking what is going to happen to the basic skills in an activity programme, is that, though many individuals never reach a high degree of proficiency, the need for skills is not thereby lessened. He was doubtful,

135 A.W. Hurd, "Needed Adjustments in Elementary School Curriculums," El. Sch. J. XLIV (Part 3) (November, 1933) 144
however, whether intrinsic interest alone would provide sufficient knowledge of the higher developments in arithmetic and English, but, in terms of the value for common use, said,

--- the motivation provided be association with more functional life affairs may bring even greater functional efficiency in the restricted fields of the three R's. 136

The opposite error, that of too much concern with functional learning, leading to excessive specialization, is not in evidence a great deal at the elementary level but has been a source of some concern at the secondary and higher stages of education. 137 Although it is probable that many recent scientific developments have been so outstanding because they were initiated under the impetus of a strong need, such as that of improving war-time navigation of ships and aircraft, it would be difficult to maintain that such needs could adequately motivate the arts and letters. In such a case, too, it is very doubtful whether such a goal would legitimately characterise such learning as intrinsic; there seems to be a very strong extrinsic flavour to it.

When elementary education is conceived as a preparation for later studies, it is probable that functional learning is less valuable than a more fact-finding approach, which is

136 Loc.cit.

137 Harvard Committee, General Education in a Free Society (Cambridge, Massachusetts: Harvard University Press, 1946), Ch.III
probably facilitated by a division into subjects. In addition, so much learning today is compressed into and carried on by symbols such as abbreviations, generic terms and formulae, quite apart from the increasing power of words in shaping human conduct, that it is doubtful if sufficient knowledge could be gained by a functional approach alone.

The consensus The basis of some of the factors relating to the motives and the attention of children having been discussed earlier in this chapter, it is now appropriate to discuss some of the determinants of interest from the point of view of teaching procedures. Thus, contributions which come more or less directly from the specialised study of learning theory are omitted in favour of those which deal more specifically with the teacher, the curriculum, and the pupil. It is most difficult to select those factors which seem to promise most success for a majority of teachers. It is especially difficult to weigh up the relative merits of factors derived from educational theory and practice based on different aims, and to put these into a reasonably coherent system which, it is suggested, has a measure of validity for more than one educational system. One must also note the danger of limiting the selection to factors which support a preconceived notion of suitable methods of promoting interest.
Nevertheless, there is a considerable measure of agreement among educators on this question. The main areas of common ground grouped below are gathered from statements made by C.L. Anderson, Whipple, and Gilchrist, 138 Lee, 139 Blair, 140 J.E. Anderson 141 Washburne, 142 and Jones, Grizzell and Grinstead.143 The four groupings made do not exhaust the contributions of each writer or group of writers, but emphasize the main points. It would not be possible or desirable to provide a list of suggestions which would cover every possible contingency in a relationship which is so variable.

Firstly, the goals of attainment must be clearly formulated and the best means of their attainment decided on. Usually, it is necessary also to have progressions in learning, which may be used as intermediate goals. These goals may be in the form of steps of gradually increasing difficulties, such as would be using in teaching the steps of long division, for example, or they may consist of convenient segments of a larger topic, such as dividing the history of a district into characteristic periods of development. The main goal and the intermediate goals should be both meaningful to the children,

138 National Society for the Study of Education, Learning and Instruction, pp 337-338
139 Lee, op.cit., pp. 142-150
140 Blair, op.cit., p. 166
142 Ibid., pp. 394-395
that is, either based on or associated with their experience, and also accepted by them as worthy of achievement.

In order to obtain the fullest acceptance of these goals as personal to each child, it is probable that such formulation is best done by a co-participant method, that is, by the teacher and the pupils making the choices together. Because of curricular demands, however, it may be necessary for the teacher, after a study of each item or group of items, to relate it to some part of the children's experience, or provide an activity which will necessitate the use of the item for its fulfilment. In short, as Lee 145 suggested, the teacher may have to judiciously 'sell' the topic to the children if it is believed that interest will develop, or if the curriculum demands it. Naturally, the topic should not be pursued if it is clear that it touches no part of their experience or interest.

A subsidiary factor to adequate goal formulation is that of meaning. On the meaning of an activity to an individual, largely depends his attitude and approach to it. If he accepts the goal of the activity as likely to satisfy one or more of his needs, or as directly related to his experience, he will probably become more personally concerned with it, and therefore more interested in it. Thus, devices designed to make the topic or activity more meaningful to the individual,

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144 Trow, et al., loc.cit
145 Lee, op. cit., p. 126
will be necessary adjuncts to learning based on interest. Such devices as giving advance questions, summarising the main thought of prose passages, simplifying the vocabulary, and providing study-guides, are commended by Reed, 146 because they create 'a mental set which is adapted to the task in question.'

Citing a previous experiment that he himself had carried out, Reed 147 showed that the teaching of meanings of words aided spelling ability. He 148 added that much improvement in learning to play the piano and to use a type-writer has resulted from the use of meaningful material instead of drilling on unconnected exercises. In this respect, meaningfulness could be called the formulation of a clearer conception of a goal. To increase meaning, Lee 149 favoured the asking of questions by pupils at the beginning of a study, during the study, and at the end, in order that they might clarify their purposes, and summarise and organise what they have learned.

A second area of general agreement on the determinants of interest is that interest will tend to flag rapidly if the material used is not appropriate to the age and attainment level of most of the learners, no matter what method of fostering

146 Reed, op. cit., p. 423
147 Ibid., p. 426
148 Ibid.
149 Lee, op. cit., p. 127
interest is used. As a corollary to this, it is important to note that, although a teacher may teach a class as one group, learning does not occur in that way, whether it be by self-activity, or by direct instruction. Learning occurs, or fails to occur, in each individual child. The factor of differences in range of reading or number ability, amounting to several years in many classes, is one that tempers the optimism of the most enthusiastic teacher, when he tests the attainment of his class.

Thus, there is not only a class of forty children to teach, there are also forty individuals, whose attainment levels, and, to a certain extent ages, must be approximately the same for convenience of teaching. Even then, the factor of individual differences continues to cause concern. It would clearly not be feasible to provide each pupil with a separate teacher; also, it seems likely that some subjects, such as music, are taught better to groups than to individuals. Thus some method of organisation must be sought that provides each pupil with material that comes reasonably within the scope of his ability.

A number of procedures are possible, of which these two seem the most common. If the range of ability is not too great, an approximately middle course can be chosen, a little below the upper level of the class, and a little above the lower level. If the range of ability is very great, the adoption of this middle course in the selection of subject
matter, may be detrimental to the interest of both the highest and the lowest levels of ability. The other procedure is that of dividing the class into ability groups so that each group works at a level close to, or, if possible, coinciding with the median level of its ability. There are also other factors to be considered in the adoption of these or other methods of organisation, but which need not be discussed here.

The appropriate use of incentives is a third broad factor on which interest in school work depends. A consensus of the literature shows that it is reasonably certain that the best use for incentives is that of refining performance by means of practice, and consolidating knowledge by testing. From experimental and theoretical evidence, it seems certain that methods of stimulation designed to improve performance are both legitimate and useful, provided that the material used for practice is already familiar to the learner, and provided too, that the emphasis is on success.

More specifically, a knowledge of results seems to be the soundest method of motivating performance. This is especially so in view of some of the limitations which have been shown to attend such methods as praise and blame, and rivalry and competition. These methods are somewhat less certain in their effects when certain factors of age, intelligence, and personality are considered. The basis of these and most other extrinsic devices seems to be reward and punishment, and of these, reward is acknowledged to be the more
certain in its outcome. Nevertheless, over-emphasis on rewards may lead to unwholesome learning attitudes.\textsuperscript{150}

In general, it can be affirmed that the wise use of incentives, even if they do not satisfy the true meaning of interest, can be a valuable stimulus and a useful part of teaching procedure.

Finally, since most teaching and learning is carried on by the interactions between persons, it is clear that the kind of personalities involved in the relationships are variables which are very important. While facts, skills, and methods can be taught to a teacher, it is difficult to forecast accurately the effect that the teacher's personality will have on the children. As there is a general recognition of some of the factors desirable in human relationships, such as tact, sympathy, and understanding, presumably few teachers are accepted for training who seriously lack these qualities.

Yet such traits may be sometimes dominated by maladjustments in the personality of the teacher. These may arise from factors external to the classroom, but may both influence the behaviour and attitudes of the teacher, and be aggravated by the class.\textsuperscript{151} Personality disorders in teachers, such as excessive tension or anxiety, have been shown to be

\textsuperscript{150} Supra, p. 65

\textsuperscript{151} Norman Fenton, \textit{Mental Hygiene in School Practice} (Stanford, California: Stanford University Press, 1943), p. 295
readily transferable to the children. On the basis of a study of seventy-three teachers and over one thousand pupils, Ryan 152 affirmed that, within less than three months, 'the effects for mental health of teachers on children were direct and real.' This refers to the more apparent forms of disorder, but it is reasonably certain that very few individuals have a personality so well balanced that there is not some, even slight, anxiety or tension.

Common experience shows that, to suggest to a class an activity or topic that has proved successful with another apparently similar class, is no guarantee of its continued success. In the same way, different teachers obtain different responses to learning from individual pupils. Constant modification of approach is necessary. Thus experience is an important factor in the field of teacher-pupil relationships, but it is probable that personality and attitudes are sufficiently varied to guard against a too stereotyped approach.

It could be justifiably maintained then that although some general principles governing children's interest can be established, the problem of implementation is specific to each teacher. While the outcomes of methods are influenced by the personalities of both children and teachers, the evidence shows that the teacher's approach is a strong determinant of the general attitude of the children.

CHAPTER IV

A SURVEY OF SOME OF THE FACTORS INFLUENCING
CHILDREN'S INTEREST IN SCHOOL WORK

When such general comments are heard as "Children just aren't interested in social studies," or "Naturally they like reading," one is tempted to ask on what basis such statements are made. For instance, to what extent do they reflect the attitude of the teacher? Have the children's subject preferences really been consulted? Why do children prefer one subject rather than another?

It was partly to answer such questions as these, and others associated with them, that this survey was undertaken, but rather it arose from a desire to find out, if possible, from which main influence the motivation of a child's day-to-day work arises. Naturally, such complex influences as social learning become almost inextricably interwoven with native ability. Thus, to describe accurately a child's source of interest in school work, would necessitate an examination so analytical as to cause the examiner to lose the overall view of the child as a personality. However, it was hoped that some measure of agreement would be found in at least parts of the inquiry.

Such an extremely analytical approach is possible, and desirable, when dealing with a more specific problem than interest
and where a number of standardised diagnostic tests are available. One can study only facets of the problem of interest, such as subject preferences, teaching methods, and specific motivational methods. From such specific aspects, answered by a significantly large and adequately sampled group, some observable basis of interest in school work was expected to develop.

For example, the values placed on subject preferences could give a clue as to whether children were intrinsically or extrinsically interested in particular subjects. The questionnaires to teachers and to parents were designed mainly to provide positive or negative evidence concerning children's interests. It was hoped that from these two sources might emerge some of the reasons for the children's preferences, for example, the teacher's preference for teaching a subject or the parent urging the child to get high marks in arithmetic in order to beat the boy next door.

I AIMS

The main aim in using the questionnaire as a method of gathering data, was to sample as large a group as possible at approximately the same time. It is likely too, that a more highly standardised answer is gained by this method rather than by interviews, unless the interviewer has had some prior training or experience. Also, in view of the nature of some of the questions to teachers, for example on punishment, it
was deemed wiser to keep the exchange of information as impersonal as possible.

The more specific aims of the questionnaire were these main areas of inquiry:

1. What subject preferences do children and teachers have at this level? Is there any noticeable group agreement on their choices and on the reasons assigned for their choices? Can any relationship be found between the preferences of pupils and teachers?

2. What methods of rewards and punishments are in use, and which are considered to be most effective? Is there any relationship to be found in the ratings given by teachers, by pupils, and by parents on this question?

3. By what instructional methods do teachers consider they can gain most interest from the children? What methods are most commonly used by parents to encourage children to work hard at school?

4. What are the relative merits of class and group organisations according to teachers and pupils?

5. Are parents satisfied with the knowledge of their child's school progress, as contained in the school reports? If not, have they any suggestions in common for improvement in the method of reporting?

6. What are parents' and teachers' ideas on possible changes in school methods, material, and amenities, with a view
to further promoting children's interest in school work?

These questions defined the approximate scope of the questionnaire. As mentioned above, it was hoped to provide identical questions addressed to different groups in as many places as possible in order to compare teachers', pupils', and parents' views in a number of ways. In the final form this was largely achieved — the only item that could not be compared with that of another group was the question to the parents concerning reports.

II METHOD

Two sections of the questionnaire, rewards, and punishments, were especially intended to provide data for direct comparisons among parents, teachers and children, divided into boys and girls. It was expected that some of the resulting information would be significant and suggestive for the use of these devices.

The mode of framing the questions or check lists was sometimes varied in language according to whether it was addressed to a teacher, a parent, or a child, although the intention was that the meaning should be the same for everyone.

In the enquiry into subject preferences, it was decided to facilitate the children's choice by giving them a list to choose from, and then asking them to rate their subjects according to 'liked best,' 'Liked next best,' or 'disliked'. However, a sufficient number omitted the third category to
alter significantly the results for the group. It is possible
that a simple positive and negative appraisal might have been
of more value here, although the possibility cannot be over-
looked that the majority of children have no dislikes.

It was decided not to limit the teachers' choice of
subject by any such method as providing a list. In addition
they were provided with a wider range of rating categories in
this case, four. The results show that this policy was
justified because nearly all the rating spaces were used. An
unfortunate result of this, however, was the fact that it
ruled out the correlation of teachers' and pupils' preferences.

The provision of a check list of reasons for the ratings
was taken full advantage of, although the question may well
be raised as to whether such a provision not only expedites
the answering of the questionnaire, an important factor in
itself, but whether it expedites it by actually providing a
'tailor-made' answer. This comment is equally applicable to
other parts of the questionnaire. It is admittedly a weakness
of the check list method in that it may assist an investigator
in bolstering up an hypothesis by providing the raw materials
for its justification. The check list may too act on the
subject by the power of suggestion.

The charge may be adequately defended by a statement of
the necessity for system and classification of manageable results
are to be obtained, while the provision for an open answer at
the end to some extent meets the objection.

Finally, it is possible for answers to provide
classifications not originally intended by the investigator.
This was shown in the section of the teachers' questionnaire
dealing with organisation, where it was found possible and
valid for teachers to check every item.

Preliminary survey After the form and content of
the questionnaire had been decided upon, a pilot survey was
conducted in the school with which the writer is connected.
Four teachers, who are teaching 3.4 classes now or have
recently taught them, answered the teachers' questionnaire,
and a complete 3.4 class of forty-six pupils answered the
pupils' questionnaire. These pupils also each took home
a copy of the parents' questionnaire. All of these were
returned, but one was not answered, giving as a reason, "I
cannot see the benefit of this." The instructions to the
teachers were given verbally, while the pupils were given their
papers by their class teacher, who was advised to make little
comment on the questionnaire.

It was anticipated that in some sections of the
questionnaire a number of statements in a list would be checked.
Therefore, in order to find any desired emphases, it was
decided to ask for a distinguishing mark to show this.
Apparently the instructions did not make this perfectly clear; for in a large number of parents’ and pupils’ answers, the whole list was marked with the distinguishing emphasis. Largely because of this defect, the results of this pilot survey were considered valueless, and none have been taken into account.

**Final form** This was corrected in the final form with much improved results, chiefly concerning rewards and punishments. The relevant portions of the preliminary and the revised form of the survey are shown for comparison.

**Pilot Survey** Tick ✓ those you have noticed to be effective; use a double tick ✓✓ for the one you have noticed to be very effective.

**Final form** Use a single tick ✓ for those you have noticed to be effective; use a double tick ✓✓ only for the one you have noticed to be very effective.

Other improvements thought necessary, and included in the final form, were the signing of the writer’s name on both teachers’ and parents’ papers, and a brief statement of the reason for conducting the inquiry. Minor improvements in format were also made.

A late addition to the instructions was that concerning the marking of the children’s papers, ‘Boy’ or ‘Girl’. Unfortunately this instruction was not carried out by three teachers. Thus the children’s papers from these classes,
although included in children's totals are, of course, omitted in details of boys' and girls' totals.

No attempt was made in the instructions to ensure the matching of each child's paper with his or her parent's paper, although three teachers did mark papers to show this. Some more useful data may possibly have been gained from a fuller control of this factor, although this did not show up in the questionnaires subjected to it.

Formal approval of the project having been given by the Senior Inspector of the Education Board, the following material was posted to each school selected for the sample group.

- Stamped addressed envelopes for reply.
- Letter to the head teacher.
- Instructions to the class teacher.
- One questionnaire for teachers.
- Six questionnaires for children.
- Six questionnaires for parents.

Sample Group. It was decided to use 3.4 classes as the level of the sample group for several reasons:

1. Children in classes lower than 3.4 would probably experience more difficulty in handling a questionnaire adequately.

2. 3.4 represents approximately the 'middle' of the primary school.

3. The sampling of classes higher than 3.4 would involve
intermediate schools which are considered rather a special kind of elementary school.

The use of specialist teachers, and a more intensified system of 'streaming' into ability groups, was felt likely to cause a cleavage in the data, which would not be found in the case of primary schools. It would be useful to know, however, whether, in S.4 classes from a school which contributes to an intermediate school, pupils develop a slightly different scale of values and attitudes to work, from S.4 pupils in ordinary primary schools. In the contributing school, the S.4 children are the superiors of almost every other child in attainment, age, physical size, and positions of responsibility, while in the ordinary primary school they have a much more subordinate position.

Forty public primary schools from the Christchurch urban and suburban area were selected for the survey and were each sent an envelope containing the necessary material. When two envelopes were returned unanswered almost immediately, they were sent to two other schools. Thus forty-two schools received material. At one school the material was divided between two classes, the two teachers sharing the one questionnaire. Apart from this case, six children and six adults were sampled for every teacher.
TABLE IV

SUMMARY OF SAMPLE GROUP

<table>
<thead>
<tr>
<th></th>
<th>Sample Group Marked Papers Returned</th>
<th>Percentage marked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>42</td>
<td>24</td>
</tr>
<tr>
<td>Children</td>
<td>252</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td>(56 Boys, 59 Girls, 18 Unknown)</td>
<td></td>
</tr>
<tr>
<td>Parents</td>
<td>252</td>
<td>130</td>
</tr>
</tbody>
</table>

The classes in the sample group varied both in range of numbers in the classes, and in range of ability. Except in the case of four composite classes, and one for which no numbers were furnished, the 24 classes sampled ranged from thirty-four children to fifty-two children. The mean for this group 45.7, while that for the whole group was 40.6. Eighteen of the twenty-four classes were composed of both boys and girls. Of the others, one was a class of boys, one a class of girls, while no details are available for the remaining four.

Four teachers rated their classes as bright, and of these, two used examination results as an instrument of measurement, one used an intelligence test, and the fourth used mental ages and attainments jointly. Four teachers rated their classes as middle groups, two using examinations, one intelligence tests, and the fourth gave no method. Two teachers rated their classes as dull, and of these, one had
graded by performance in English, arithmetic, and reading, while the other gave no method. Four teachers gave no estimate of their classes, while the remaining ten indicated that their classes were mixtures.

Material sent

LETTER TO HEADMASTERS

The Headmaster,

[Address]

CHRISTCHURCH

Dear Sir,

I am a teacher doing a thesis for the B.A. degree in Education on the topic of children's interest in school work. It would be of great assistance to me if you would pass the enclosed material on to a Standard 4 teacher who is willing to carry out the appropriate instructions.

I am,

Yours faithfully,

LETTER TO TEACHERS

Dear Sir/Madam,

Enclosed are copies of three questionnaires which are part of a survey to be included in a thesis on the subject of the interest of children in school work. The study will be confined to Standard 4 classes in Christchurch primary schools. It would be of great assistance to me if you would carry out the following instructions:

1. Answer the teachers' questionnaire.

2. Give the children's questionnaire to a random sample of your class. The most effective method of sampling
would be to give a paper to, say, every sixth child as the names appear in your register.

3. When those children have completed and passed in their papers, give each of them a copy of the parents' questionnaire. Ask them to take it home, have it marked, and return it the next day.

4. As soon as you conveniently can, return the material to me in the stamped addressed envelope provided.

Your co-operation in this matter will be most appreciated.

I am,
Yours faithfully,

* Three boys and three girls if possible. Please ensure that the children write on top of the page 'Boy', or 'Girl', as the case may be.

QUESTIONNAIRE TO TEACHERS

Your co-operation will be greatly appreciated in filling in the questionnaire as carefully and as frankly as you can. Any information or opinions given will, of course, be treated as confidential. Therefore, do not write your name or that of your school anywhere on the paper.

1. YOUR CLASS
   (a) No. of boys .... No. of girls .... Total no. in class...
   (b) Tick (√) the correct items in each section below.
   If there is more than one 5.4 class in your school, is yours

   The brighter group
   The middle group
   The duller group
   Not graded in any way, i.e. a mixture
(c) If your class is graded, in the method of grading:

- By intelligence tests
- By exam. results
- Any other here

2. SCHOOL SUBJECTS:

(a) Considering the subjects you teach, fill in the blanks in the following statements:

I like teaching __________ best of all.

I like teaching __________ next best.

I quite like teaching __________

I dislike teaching __________ most of all.

(b) Tick (✓) the correct item below. My choice of "best liked" above is given because:

- I am very interested in the subject myself
- The children like it very much
- There is plenty of available material
- Any other reason

(c) Tick (✓) the correct item below. My choice "most disliked" above is given because:

- I am not interested in the subject
- The children dislike it very much
- There is not enough available material
- Any other reason

3. METHODS

Considering your ordinary teaching methods, tick (✓) those listed which you find effective in interesting your class in school work; use a double tick (✓✓) only for the one you find very effective.
(a) A novel and/or dramatic introduction such as a trick or doing something unusual.

(b) The use of apparatus, e.g., maps, pictures.

(c) Questioning, e.g., from the familiar to the unfamiliar.

(d) A steady sequence of progressions.

(e) The setting of a problem in advance to be used later.

(f) The giving of an outline of the whole course to be covered.

(g) Any others here ________________________________

**4. ORGANISATION:**

In each section, tick (✓) the methods listed which you find effective in interesting your class in school work; use a double tick (__) only for the one you find very effective.

(a) Monitors, leaders:

I appoint leaders as rewards for good work

I see that everyone gets a turn as leader

I appoint only those leaders I think most suitable

I find that most children do their jobs well

I find that with some children, appointment as leader is a waste of time.

(b) Groups:

I use groups of children under leaders wherever possible

I use groups of children under leaders in some lesson

I prefer to teach the class as a whole myself

I dislike the use of groups
5. **REWARDS AND INCENTIVES:**

Tick (✓) the rewards listed which you find effective in increasing your class in school work. Use a double tick (✓✓) only for the one you find very effective.

(a) Praising the children
(b) Giving stamps in books
(c) Giving marks
(d) Giving a good report to take home
(e) Allowing children to do work of their own choice
(f) Holding competitions between teams
(g) Giving children the opportunity to feel successful at something
(h) Telling children their position in class exams
(i) Any others here

6. **PUNISHMENTS:**

Tick (✓) the punishments listed which you find effective in increasing your class in school work. Use a double tick (✓✓) only for the one you find very effective.

(a) The teacher growling
(b) Giving “lines”
(c) Giving extra work to do
(d) Corporal punishment
(e) Loss of marks for team
(f) Threat of possible failure in exam
(g) Giving bad home report
(h) Telling children their position in class exams
(i) Any others here

7. Which of these changes do you consider would be most effective in making children more interested in school work? Tick (✓) those you consider would be effective. Use a double tick (✓✓) only for the one you consider would be very effective.
(a) Provision for parents to have easier access to teachers.
(b) Provision of smaller classes.
(c) Provision of more rooms at school for libraries, music, art, handwork, etc.
(d) Provision of more material, e.g., books, apparatus, handwork materials, films.
(e) Provision of a different scheme of promoting children through the school.
(f) Any others here

QUESTIONNAIRE TO PARENTS

I am studying the problem of what makes children interested in school work. This research is being carried out as part of a University course in education. It would be of great assistance to me if you would answer this paper as carefully and as frankly as you can, and return it to the school to-morrow. Do not put your name on the paper as the answers are to be completely confidential.

1. Put a tick (√) in the space provided beside the statement you agree with:
   (a) My child is interested in most school work
   (b) My child is interested in only parts of school work.
   (c) My child is not interested in school work

2. Which of these rewards or incentives used at school have you noticed to be effective in making your child more interested in school work. Use a single tick (√) for those you have noticed to be effective; use a double tick (++) only for the one you have noticed to be very effective.
   (a) Teacher giving praise
   (b) Getting stamps on books
3. Which of these punishments used at school have you noticed to be effective in making your child more interested in school work? Use a single tick (✓) for those you have noticed to be effective; use a double tick (✓✓) only for the one you have noticed to be very effective.

(a) The teacher growling
(b) Writing "lines"
(c) Doing extra work
(d) Getting the strap
(e) Losing marks for a group competition
(f) Teacher threatening failure in exam.
(g) Getting bad home report
(h) Your child knowing what position he is in in class exams.
(i) Any others here

4. What method of encouragement have you yourself found most effective at home in making your child more interested in school work? Use a single tick (✓) for those you have noticed to be effective; use a double tick (✓✓) only for the one you have noticed to be very effective.
(a) Giving help with school work

(b) Saying that the knowledge will be useful in later life

(c) Saying that good school work will lead to a good job

(d) Promising a reward (e.g., money, sweets, book)

(e) Giving encouragement to beat other children

(f) Any others here_________________________

5. Does the information given on a school report tell all you wish to know about your child? (Yes or No)_____ Give any remarks or suggestions for school reports_________________________

6. Which of these changes do you consider would be most effective in making your child more interested in school work. Use a single tick (✓) for those you think would be effective; use a double tick (✓✓) only for the one you think would be very effective:

(a) Provision for parents to have easier access to teachers

(b) Provision of smaller classes

(c) Provision of more rooms at school for libraries, music, art, handwork.

(d) Provision of more material, e.g., books, apparatus, handwork material, films

(e) Provision of a different scheme of promoting children through the school

(f) Any others here_________________________
These questions are to try to find out what kinds of things you are interested in in school work. Please answer all the questions as carefully as you can, putting down just what you think. Do not put your own name, or that of your school on your paper.

1. Here are some kinds of school work. Social Studies, Arithmetic, Drawing, Essay, Spelling, Handwork, Singing, Reading, English, Nature Study. Use them to fill in the first space in the sentence, and then finish the sentence yourself.

I like __________________________ best of all because ______________________________

I like __________________________ next best because ______________________________

I do not like ______________________ because ______________________________

2. Put a tick (✓) in the square beside the sentence that is true for you.

I like most school work
I like only some school work
I do not like school work

3. Here are some kinds of rewards for good work in school. Put a tick (✓) in the square beside the ones you like, and two ticks (√) in the square beside the only one you like very much.

(a) The teacher saying you have done well
(b) Getting a stamp on your book
(c) Getting good marks in a test or exam.
(d) Getting a good report to take home
(e) Being allowed to do work you like doing
(f) Working to get good marks for your group
(g) Being able to do something really well

(h) Knowing your place in class exams

(i) Any others here

4. Here are some punishments for not doing work in school. Put a tick ( ) beside the ones you think make you do better work and try harder; and two ticks (√) beside the only one you think makes you do a lot better.

(a) The teacher growling at you

(b) Writing "lines"

(c) Having extra work to do

(d) Getting the strap

(e) Losing marks for your group

(f) Teacher saying you may fail

(g) Getting a bad report to take home

(h) Knowing your place in class exams

(i) Any other here

5. Put a tick (✓) beside the sentence that is true for you and then finish it.

I prefer working in groups with one of the class as leader because

I prefer working in the class with the teacher in charge because
Scoring methods. The scoring method was to count one mark for each time an item was ticked singly. In several sections, rewards and punishments, teachers' and parents' methods, and suggested improvements, the double ticks showing desired emphasis were counted in the total as scoring one mark also. They were also totalled separately and used at appropriate points in the discussion. These emphasis marks were calculated in this way only if there was but one emphasis mark in each section, as the instructions stated. If more than one item in each section was emphasised, every item ticked counted only a single mark.

These raw scores were all converted to tables of percentages, in order that satisfactory comparisons could be made between various groups. The percentages were calculated on the basis of the sample group returning marked papers, (see Table IV). Where the double tick system of indicating emphasis was used, the percentages have been shown in brackets in the tables. Correlations were calculated by the rank-order method on the basis of raw scores.
III RESULTS AND DISCUSSION

1. General Attitude to School Work

The pupils' and parents' questionnaires began with a general inquiry into the attitude of pupils to school work. Parents were asked to rate their own estimates of the children's attitudes.

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Boys</th>
<th>Girls</th>
<th>All Children</th>
<th>Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like most work</td>
<td>69.6</td>
<td>69.8</td>
<td>77.4</td>
<td>90.7</td>
</tr>
<tr>
<td>Like only some work</td>
<td>26.7</td>
<td>10.2</td>
<td>21.1</td>
<td>9.3</td>
</tr>
<tr>
<td>Dislike work</td>
<td>3.5</td>
<td>0.0</td>
<td>1.5</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Little comment is merited except a note of the very large number who claim to like most school work, a claim that is more strongly emphasised by the parents. Sex differences account for most of those who like only some school work, the boys giving a higher rating. Incidentally, both boys who indicated that they disliked school work answered the subject preferences for both the liked categories.

2. Subject Preferences (See Tables VI to XII)

It was considered that this was an area of inquiry that might yield valuable data on the reason for interest or lack of interest in school work, from the point of view of both teachers and pupils. Dunlop,¹ experimenting with

¹ W. Dunlop, "Preferences as Indicators of Specific Academic Achievement," J. of Ed. Psych. XXVI (1935) 411
### TABLE VI

PERCENTAGE RATINGS OF TEACHERS' SUBJECT PREFERENCES

<table>
<thead>
<tr>
<th>Subject</th>
<th>Liked Best Percentage</th>
<th>Liked Next Best Percentage</th>
<th>Quite Liked Percentage</th>
<th>Disliked Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soc.</td>
<td>43.4</td>
<td>39.1</td>
<td>21.7</td>
<td>26.1</td>
</tr>
<tr>
<td>Ar.</td>
<td>21.7</td>
<td>13.0</td>
<td>17.3</td>
<td>26.1</td>
</tr>
<tr>
<td>Eng.</td>
<td>13.0</td>
<td>13.0</td>
<td>8.7</td>
<td>13.0</td>
</tr>
<tr>
<td>Mus.</td>
<td>8.7</td>
<td>8.7</td>
<td>8.7</td>
<td>8.7</td>
</tr>
<tr>
<td>Wr.</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Spg.</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Nat.</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
</tr>
<tr>
<td>All</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not ans.</td>
<td>13.0</td>
</tr>
</tbody>
</table>

#### Abbreviations of names of subjects

- Ar. = Arithmetic
- Nat. = Nature Study
- Soc. = Social Studies
- Arts. = Art
- Nat. = Nature Study
- Soc. = Social Studies
- Eng. = Formal English
- P.E. = Physical Education
- All = All subjects
- Ess. = Essay
- Read. = Reading
- All = All subjects
- Rdg. = Reading
- Not ans. = Not answered.
- Rec. = Recitation
- Wr. = Writing
- Spg. = Spelling
- Nwk. = Handwork
- Rec. = Recitation
seventh grade children, correlated their subject preferences, judged from attitudes to terms from academic subject matter, with an achievement test and an intelligence test. He found nearly as high a correlation between preferences and achievement as between mental ability and achievement. He concluded as a result that, if his preference tests were refined and extended, they could noticeably increase the accuracy of the prediction of future academic success. The tables of preferences here are to be read in conjunction with those giving reasons for likes or dislikes.

It will be remembered that teachers were given an open choice of subjects to rate in order, while children were required to choose from a selected list. Because of this difference, no correlation figures are possible; but the reduction of the scores to percentages does permit comparison by inspection.

A conspicuous feature of the teachers' ratings (Table VI) is the emphatic preference shown for teaching arithmetic and social studies, neither of which is mentioned in the disliked list. English stands rather highly in the preferences, but easy, which one would possibly expect, as an associated subject, to be rated nearly equally, has a low frequency of mention. Spelling, rated highly by children as a preference,
### Table VII

Percentage Comparisons of First Preference Subjects of Christchurch Teachers and United States Teachers

<table>
<thead>
<tr>
<th>24 Christchurch Teachers</th>
<th>543 United States Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subject</strong></td>
<td><strong>Percentage</strong></td>
</tr>
<tr>
<td>Soc.</td>
<td>43.4</td>
</tr>
<tr>
<td>Ar.</td>
<td>21.7</td>
</tr>
<tr>
<td>Eng.</td>
<td>8.7</td>
</tr>
<tr>
<td>Mus.</td>
<td>8.7</td>
</tr>
<tr>
<td>Tr.</td>
<td>4.3</td>
</tr>
<tr>
<td>Spg.</td>
<td>4.3</td>
</tr>
<tr>
<td>Nat.</td>
<td>4.3</td>
</tr>
<tr>
<td>All</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subject abbreviations as for Table VI
### TABLE VIII

**Percentage Ratings of Teachers' Reasons for Listing First Preference Subjects**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am very interested in the subject</td>
<td>69.6</td>
</tr>
<tr>
<td>The children like it very much</td>
<td>56.5</td>
</tr>
<tr>
<td>There is plenty of available material</td>
<td>17.3</td>
</tr>
<tr>
<td>Other reasons</td>
<td>17.3</td>
</tr>
</tbody>
</table>

### TABLE IX

**Percentage Ratings of Teachers' Reasons for Listing Disliked Subjects**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am not interested in the subject</td>
<td>34.7</td>
</tr>
<tr>
<td>The children dislike it very much</td>
<td>8.7</td>
</tr>
<tr>
<td>There is not enough available material</td>
<td>30.4</td>
</tr>
<tr>
<td>Other reasons</td>
<td>30.4</td>
</tr>
</tbody>
</table>
in insignificant here by comparison.

Of the disliked subjects, handwork and nature study accounted for well over half of those named. A study of the reasons given for these ratings (Table IX), showed that lack of available material is the basis for dislike of handwork. Dislike of nature study, however, does not seem to be firmly based in any particular reason, apart from a slight bias towards lack of personal interest. Another notable feature is the percentage of teachers indicating that they quite liked all subjects, and those not answering the disliked section at all.

As a comparison, the results of teachers' first preferences are listed in Table VII beside the first preferences of a much larger group of teachers of fifth-grade children, sampled in a Boston University study recorded by Chase.4 Naturally, the much larger sample group used in the latter study tends to give more significant results. Nevertheless, the results of the local study showing strong preferences for arithmetic and social studies is very well supported.

The reasons given for naming first preferences have no notable relationships with particular subjects, such as a

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4 W.L. Chase, "Subject Preferences of Fifth Grade Children," \textit{J. Sch. J.}, L No.4 (December, 1949) 207
majority naming social studies because of the availability of material. The closeness of the reasons of personal interest and children's liking is notable, and it seems likely that the subject preferences of children and teachers are closely linked, being carried on in an atmosphere of mutual support. However, in this study, although the strongest first preferences of all teachers are supported by those of all children, a study of a frequency chart did not show notable direct connections between a given teacher and his class. This, however, was not specifically aimed at here, as was the study recorded by Chase,\(^5\) where it was found that pupils significantly followed the first preferences of their teacher in arithmetic, language geography, history, social studies, music, and science.

The four other reasons given by teachers in this study were, "I feel that I can put (arithmetic) across," "So many other things may be integrated with (social studies)"; "(Arithmetic) lends itself to a wide variety of treatment," and "(Music) is more informal." Each of these reasons seems to be important, not the least of which may be the feeling of confidence expressed in the first. It may be that more of the reasons given for first preferences contained a strong

\(^5\) Loc.cit.
element of this feeling.

In ranking reasons for disliking subjects (Table IX), the teachers again showed no clear subject-reason relationship, except in the third category. Of the seven teachers who had indicated lack of available material as a reason, five had listed handwork as the subject.

The other reasons given for dislike were varied, including lack of confidence, inability to perform as in music and physical education, and two firm convictions. The first of these, from a teacher who disliked nature study, said, "I believe that the reason for teaching it is based on the false premise that all children are interested in it." The second said he disliked teaching writing because, "Printing is more suitable to muscular control at this age."

The outstanding features of the subject preferences of children, as shown by Table X, are, on the one hand the strongly expressed liking for arithmetic and social studies, with spelling a strong second preference, and on the other the pronounced disliked dislike of essay. It is important too, that arithmetic, although strongly liked, also features prominently as a disliked subject. What are the reasons for these features?

A charting of the subjects selected and the reasons given brings out no notable associations, such as selecting arithmetic for its utility value for example, or spelling for
### TABLE X

#### PERCENTAGE RATINGS OF CHILDREN'S SUBJECT PREFERENCES

<table>
<thead>
<tr>
<th>Liked Best</th>
<th>Liked Next Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td>Boys</td>
</tr>
<tr>
<td>Ar.</td>
<td>21.4</td>
</tr>
<tr>
<td>Soc.</td>
<td>26.7</td>
</tr>
<tr>
<td>HwK.</td>
<td>19.6</td>
</tr>
<tr>
<td>Spg.</td>
<td>1.7</td>
</tr>
<tr>
<td>Rdg.</td>
<td>8.9</td>
</tr>
<tr>
<td>Art.</td>
<td>5.3</td>
</tr>
<tr>
<td>Nat.</td>
<td>8.9</td>
</tr>
<tr>
<td>Mus.</td>
<td>1.7</td>
</tr>
<tr>
<td>Ess.</td>
<td>1.7</td>
</tr>
<tr>
<td>Eng.</td>
<td>3.5</td>
</tr>
<tr>
<td>Not ans.</td>
<td>4.5</td>
</tr>
</tbody>
</table>

### DISLIKED

<table>
<thead>
<tr>
<th>Subject</th>
<th>Boys</th>
<th>Girls</th>
<th>All Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ess.</td>
<td>26.7</td>
<td>27.1</td>
<td>28.0</td>
</tr>
<tr>
<td>Ar.</td>
<td>21.4</td>
<td>15.3</td>
<td>18.1</td>
</tr>
<tr>
<td>Eng.</td>
<td>10.7</td>
<td>8.4</td>
<td>9.7</td>
</tr>
<tr>
<td>Art.</td>
<td>1.7</td>
<td>10.2</td>
<td>6.7</td>
</tr>
<tr>
<td>Soc.</td>
<td>3.5</td>
<td>5.0</td>
<td>6.1</td>
</tr>
<tr>
<td>Nat.</td>
<td>7.1</td>
<td>6.7</td>
<td>6.4</td>
</tr>
<tr>
<td>HwK.</td>
<td>0.0</td>
<td>5.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Spg.</td>
<td>1.7</td>
<td>3.4</td>
<td>2.2</td>
</tr>
<tr>
<td>Mus.</td>
<td>3.5</td>
<td>0.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Rdg.</td>
<td>0.0</td>
<td>1.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Not ans.</td>
<td>23.2</td>
<td>16.9</td>
<td>20.1</td>
</tr>
</tbody>
</table>
the feeling of success in writing all words correctly. It is possible, in view of some of the data collected on incentives, that the reason lies in the degree of exactness involved, that is, in the correctness or incorrectness of the work being easily ascertained. Both parents and children expressed strong preference for the giving of quantitative marks, and such a method is obviously ideal for arithmetic and spelling. Assuming that as truth for the moment, there still remains the explanation of the preference for social studies, which possibly would require the addition of some other factor. Such statements are mere hypotheses, however, which would require more specific investigation for them to be substantiated.

Another hypothesis, that is on more solid ground, is that concerning the supportive atmosphere of mutual interest by the teacher and the class, with the added stimulus of a more highly refined teaching technique in these subjects. Chase\(^6\) supports this view in respect to social studies. From a check list divided into observation and interview sections, he carefully rated twenty classrooms according to teaching efficiency and found that in the highly rated classrooms children preferred social studies more than any other subject.\(^7\) It is

\(6 \text{ Ibid.}, \ p. \ 211\)

\(7 \text{ Loc. cit.}\)
not quite clear from the report whether the rating is given for general efficiency or to special efficiency in social studies. Of the study, Chase writes,

The differences in practices and procedures were so marked as to lead one to conclude that these differences contributed heavily to the opinions and judgements of the pupils concerning social studies.8

The position of spelling in the face of this hypothesis is a difficult one, because the high rating given it by children was not supported by the results of teachers' preferences.

In the disliked categories, the teachers' emphasis of handwork and nature study is not supported by the children's estimates. Thus, the low mention by teachers of children's dislike as a reason for their ratings seems well founded. The marked emphasis by children of essay as a disliked subject is notable. Children listing reasons for this, were on the whole quite definite about the feelings of difficulty, dullness, inadequacy of expression, or lack of ideas that they experienced. A tentative conclusion is that children feel that teachers expect too much writing and too much exactness of detail in their essays. A further important feature is that, in agreement with the teachers, a large proportion of children named no disliked subject.

Sex differences are most notable in spelling as both

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8 Loc.cit.
a first and a second preference, where girls express a much stronger liking than boys. As a second preference, arithmetic appears to show a sex difference, but this is not apparent in either of the other categories. Handwork and social studies both appear to be more strongly favoured by boys than girls, but as a first preference only. The rating of essay as a disliked subject was shared almost equally by boys and girls. The Boston University study found these sex differences.

Boys significantly dislike language, penmanship, music, and spelling more than do girls — Girls significantly dislike arithmetic, geography, history, social studies, and science more than do boys.  

The only reasonably certain common ground here is the preference of girls for spelling being stronger than that of boys.

The classified reasons given for the subject likes and dislikes of children appear in Tables XI and XII. Although teachers were provided with a check list for their reasons, it was considered simpler for children to add their reasons to their preferences as part of a complete sentence. Thus continuity, and perhaps spontaneity, would be assisted. The reasons given by the children were then analysed and divided into five categories for each degree of preference and four for the disliked group.

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9 Ibid., p. 210
Naturally the division of such subjective judgments into such categories, although it enables a conspectus to be taken which would otherwise be impossible, has some limitations. The reason for liking or disliking a subject is not necessarily to be found in a single phrase, but may have important origins in past experience. Thus, to classify, "It doesn't appeal to me," as a feeling of difficulty, has an arbitrariness about it that does not do justice to the statement.

It is also important to note the probability that many of the reasons given by children are echoes of the statements of parents and teachers, which the child may not fully realise. Possibly some of the references to utility or lack of it, such as, "It doesn't benefit you," or, "It helps when you grow up" are in this category. In what seemed a particularly good example of this, a girl wrote English as a first preference "because it is a reading and writing programme."

The classification of the reasons, together with the criterion used in each case, were as follows,

1. **Utility**. The child mentioned as a reason the practical value, or uselessness, of the subject concerned.

2. **Success or Failure**. The mention of these as reasons, if possible without emotions added, formed the basis of this category.

3. **Emotion**. The feelings associated with learning, such
as fun or dullness, were the basis for this group.

4. Pure Description. Reasons given in this group merely named the matter or method of the subject involved, which presumably had an effect that the child omitted to mention.

5. Learning Attitudes or Skills. This group appeared only in the two sections expressing preference. Here the mention of a challenge showed that this was also a pleasant situation for a proportion of children.

In Table XI can be seen a very close agreement between the reasons given for the first and the second categories. In the disliked group in Table XII, however, there is a noticeable emphasis on the emotional factors, which, following the pattern of Table XI, may possibly be associated the experiencing of failure. The high percentage of children who gave no reason for naming their disliked subject, must not be ignored as the group could effectively alter the findings, if transferred to any one of the first three reasons.

Taking all sets of reasons into consideration, one could conclude that pleasant associations with a subject are practically an essential to effective learning. Then must come the frequent experiencing of success in learning the subject. Finally, the utility motive may be relied on to a certain extent, although according to the data from parents, that aspect seems sufficiently well stressed at home.
<table>
<thead>
<tr>
<th>Reason and Examples</th>
<th>1st Pref.</th>
<th>2nd Pref.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utility</strong> e.g. &quot;Arithmetic helps when you grow up.&quot; &quot;Spelling helps in composition.&quot;</td>
<td>21.0</td>
<td>21.8</td>
</tr>
<tr>
<td><strong>Success</strong> e.g. &quot;I am good at art.&quot; &quot;I like essay because it's easy to write out.&quot;</td>
<td>30.1</td>
<td>18.7</td>
</tr>
<tr>
<td><strong>Pleasant emotion</strong> e.g. &quot;I like reading because it's a fun preparing plays.&quot; &quot;I like music because we have a nice teacher.&quot;</td>
<td>30.1</td>
<td>20.6</td>
</tr>
<tr>
<td><strong>Description</strong> e.g. &quot;Nature study is birds, insects and animals.&quot; &quot;Spelling has words in it.&quot;</td>
<td>6.1</td>
<td>8.2</td>
</tr>
<tr>
<td><strong>Learning Attitude</strong> e.g. &quot;Arithmetic makes me think.&quot; &quot;I learn hard words and interesting words in spelling.&quot;</td>
<td>9.0</td>
<td>7.5</td>
</tr>
<tr>
<td><strong>No reason</strong></td>
<td>3.8</td>
<td>14.9</td>
</tr>
</tbody>
</table>
### Table XII

**Children's Reasons for Listing Disliked Subjects in Percentages**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Utility e.g. &quot;I have to write too much in essay and it's not useful.&quot; &quot;Art is no benefit to you.&quot;</td>
<td>2.2</td>
</tr>
<tr>
<td>Failure e.g. &quot;I don't get my sums right.&quot; &quot;I was never any good at essay, and never shall be.&quot;</td>
<td>17.3</td>
</tr>
<tr>
<td>Unpleasant Emotion e.g. &quot;I have no ideas and not enough expression in essay.&quot; &quot;Art is hard and if you spoil it you have to start again.&quot;</td>
<td>45.1</td>
</tr>
<tr>
<td>Description e.g. &quot;English has parts of speech.&quot; &quot;You have to write a page of essay.&quot;</td>
<td>3.2</td>
</tr>
<tr>
<td>No reason</td>
<td>27.6</td>
</tr>
</tbody>
</table>
3. Rewards (See Table XIII)

The ratings of parents and children for the effectiveness of rewards emphasise the value of the report that is sent home, while close to this is the giving of marks for work. Neither of these rewards are considered of such value by teachers, ranking no higher than fourth. The importance of the home report was found similarly by Highfield and Pinsent,¹⁰ although the sample group they used was both older, and had a wider range of ages. Teachers’ estimates were approximately the same also.

It is important to note the variation in the directions used in the questionnaire, according to whether the person answering was a pupil, a parent or a teacher. It was intended that the direction should mean the same despite the difference in wording, but this of course cannot be guaranteed. For example, ‘interesting your class in school work’ may not mean to a teacher what ‘making your child more interested in school work’ means to a parent. This factor may be responsible for some erroneous conclusions.

Teachers’ praise is valued highly by the teachers in this study, and given third place by both parents and pupils

¹⁰ Highfield and Pinsent, op.cit., p. 220
### TABLE XIII
PERCENTAGES OF TEACHERS, PARENTS AND CHILDREN RATING
REWARDS FOR EFFECTIVENESS IN MOTIVATING SCHOOL WORK.

<table>
<thead>
<tr>
<th>Reward</th>
<th>Teachers</th>
<th>Parents</th>
<th>Children</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giving praise</td>
<td>95.8 (47.3)</td>
<td>65.3 (10.7)</td>
<td>72.2 (9.0)</td>
<td>71.4 (7.1)</td>
<td>71.2 (10.2)</td>
</tr>
<tr>
<td>Giving stamps on books</td>
<td>58.3 (8.7)</td>
<td>52.3 (6.9)</td>
<td>54.1 (3.8)</td>
<td>53.6 (3.5)</td>
<td>47.4 (5.0)</td>
</tr>
<tr>
<td>Giving marks</td>
<td>54.2 (4.3)</td>
<td>68.5 (11.5)</td>
<td>79.7 (19.5)</td>
<td>82.1 (21.4)</td>
<td>72.9 (26.4)</td>
</tr>
<tr>
<td>Giving a good home report</td>
<td>41.7 (0.0)</td>
<td>70.8 (20.7)</td>
<td>88.7 (40.6)</td>
<td>94.6 (42.8)</td>
<td>84.7 (44.1)</td>
</tr>
<tr>
<td>Allowing children to do work of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>own choice</td>
<td>50.0 (4.3)</td>
<td>21.5 (0.7)</td>
<td>51.1 (2.2)</td>
<td>55.4 (3.5)</td>
<td>43.1 (1.6)</td>
</tr>
<tr>
<td>Holding group competitions</td>
<td>83.3 (17.3)</td>
<td>45.6 (4.6)</td>
<td>65.4 (2.2)</td>
<td>64.3 (1.7)</td>
<td>61.0 (1.6)</td>
</tr>
<tr>
<td>Allowing children to feel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>successful at something</td>
<td>91.6 (34.8)</td>
<td>50.0 (7.5)</td>
<td>63.2 (7.5)</td>
<td>60.7 (3.5)</td>
<td>61.7 (11.9)</td>
</tr>
<tr>
<td>Letting the child know his</td>
<td>8.3 (0.0)</td>
<td>40.0 (4.6)</td>
<td>45.9 (0.7)</td>
<td>50.9 (1.7)</td>
<td>33.9 (0.0)</td>
</tr>
<tr>
<td>position in the class</td>
<td>0.0 (0.0)</td>
<td>7.7 (0.7)</td>
<td>10.5 (0.7)</td>
<td>14.3 (1.7)</td>
<td>8.5 (0.0)</td>
</tr>
</tbody>
</table>

### Correlations for ordinary ratings

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>P.E.</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents and children</td>
<td>$r = 0.947$</td>
<td>+ 0.034</td>
<td>yes</td>
</tr>
<tr>
<td>Girls and boys</td>
<td>$r = 0.812$</td>
<td>+ 0.080</td>
<td>yes</td>
</tr>
<tr>
<td>Teachers and children</td>
<td>$r = 0.476$</td>
<td>+ 0.196</td>
<td>no</td>
</tr>
<tr>
<td>Teachers and parents</td>
<td>$r = 0.400$</td>
<td>+ 0.196</td>
<td>no</td>
</tr>
</tbody>
</table>
and should therefore be recognised as the best method common to all three groups. Surprisingly however, Highfield and Pinsent 11 found that, while teachers gave it an approximately middle position, children accorded it the lowest place of all. It may be that much more discrimination is required for the effective use of praise, and perhaps other incentives as adolescence is approached.

The teachers in this study rate almost as highly as praise the factor of allowing the child to feel successful, but parents and children put this in fifth place. There is also a strong divergence of opinion on the value of group competitions, with teachers rating them highly, and parents and children minimising their effect. The same divergence, but with opposite weightings, is shown in the rating for effectiveness of letting a child know his position in class. Most of the rewards written in other methods concerned the privilege of leaving school early.

It thus appears that teachers endeavour to encourage children by praising them, by holding group competitions, and by letting them feel successful in their work. Parents and children however, tend to prefer more concrete evidences of achievement and approval, with some appreciation of the value of praise. The emphasis shown by the double tick system bears

11 Ibid., p. 221
out this statement most noticeably.

The correlations and $P.E.s$ obtained showed that the close relationship between teachers' and children's ratings, and boys' and girls' ratings, were significant, while the other low correlations were not significant. The low correlations may have occurred because of the disparity in numbers as between teachers and parents and teachers and children.

4. Punishments (See Table XIV)

From the data on punishments no significant correlations were found. More specifically, all groups gave a high rating to the giving of extra work as an effective method. However, in the case of teachers, this was considered equivalent also to the loss of marks for a team competition. Then too, the boys considered a bad report home and corporal punishment to be equal in effect to extra work. Also, as in rewards, the high regard held by teachers for the loss of marks in a team competition found little support from the children.

The effect of varied directions for different groups must be considered. Nevertheless, there still seems to be some evidence from these results, that such punishments are somewhat uncertain in their effects, when rated by different groups of individuals.

The emphasis marks do show, however, that despite the
### Table XIV

**Percentages of Teachers, Parents and Children Rating Punishments for Effectiveness in Motivating School Work**

<table>
<thead>
<tr>
<th>Punishment</th>
<th>Teachers</th>
<th>Parents</th>
<th>Children</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growling</td>
<td>29.2 (8.7)</td>
<td>26.2 (5.7)</td>
<td>45.9 (6.1)</td>
<td>35.7 (1.7)</td>
<td>52.5 (8.8)</td>
</tr>
<tr>
<td>Giving lines</td>
<td>20.8 (4.3)</td>
<td>30.8 (9.2)</td>
<td>56.4 (10.7)</td>
<td>55.4 (10.7)</td>
<td>52.5 (10.2)</td>
</tr>
<tr>
<td>Giving extra work</td>
<td>66.7 (8.3)</td>
<td>41.5 (10.7)</td>
<td>61.7 (14.2)</td>
<td>57.1 (12.5)</td>
<td>62.7 (15.3)</td>
</tr>
<tr>
<td>Corporal punishment</td>
<td>62.5 (17.5)</td>
<td>26.2 (6.9)</td>
<td>52.7 (20.1)</td>
<td>57.1 (30.4)</td>
<td>41.1 (13.5)</td>
</tr>
<tr>
<td>Losing marks for team</td>
<td>66.7 (26.1)</td>
<td>36.9 (10.7)</td>
<td>45.9 (4.5)</td>
<td>50.0 (5.3)</td>
<td>38.9 (3.4)</td>
</tr>
<tr>
<td>Threatening failure</td>
<td>25.0 (0.0)</td>
<td>17.7 (3.8)</td>
<td>68.8 (10.4)</td>
<td>50.0 (8.9)</td>
<td>54.2 (15.3)</td>
</tr>
<tr>
<td>Giving a bad home report</td>
<td>12.5 (0.0)</td>
<td>37.7 (10.7)</td>
<td>54.9 (16.5)</td>
<td>57.1 (14.3)</td>
<td>52.5 (20.3)</td>
</tr>
<tr>
<td>Letting children know class places</td>
<td>41.7 (0.0)</td>
<td>26.9 (3.8)</td>
<td>33.5 (3.8)</td>
<td>39.3 (7.1)</td>
<td>22.0 (0.0)</td>
</tr>
<tr>
<td>Others</td>
<td>12.5 (0.0)</td>
<td>3.1 (0.0)</td>
<td>5.3 (0.7)</td>
<td>7.1 (1.7)</td>
<td>3.4 (0.0)</td>
</tr>
</tbody>
</table>

### Correlations for Ordinary Ratings

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>P.E.</th>
<th>Significant</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys and girls</td>
<td>r = 0.563</td>
<td>± 0.164</td>
<td>Significant</td>
<td></td>
</tr>
<tr>
<td>Parents and children</td>
<td>r = 0.477</td>
<td>± 0.182</td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>Teachers and children</td>
<td>r = 0.425</td>
<td>± 0.192</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers and parents</td>
<td>r = 0.413</td>
<td>± 0.195</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
high ordinary rating given by children to extra work and the threat of failure, their emphasis on corporal punishment, mainly contributed by the boys, and on a bad home report, exceeds each of these. This conclusion is confirmed by Highfield and Pinsent’s study.12

There were two notable sex differences found. The first was the greater sensitivity of girls to growling, and the second the comparative lack of concern by girls towards corporal punishment. This latter difference may possibly be because corporal punishment influences girls’ lives at school to a far lesser extent than it does the boys, although the English survey found the reverse to be true.13

It would be unwise to try to draw any definite conclusion from such data as this.

5. Methods of Fostering Interest. (See Table XV)

The results for teachers tend to show that teachers prefer, as part of what may be termed ‘normal techniques’, the use of apparatus, questioning and a sequence of progressions. However, the emphasis marks show that, while the use of apparatus retains its position as being a particularly preferred method, the other two lose their place in favour of a novel or dramatic introduction, which was a full twenty per

12 Ibid., p. 209
13 Ibid., p. 210
## TABLE XV

PERCENTAGE RATINGS OF TEACHERS' PREFERENCES FOR TEACHING TECHNIQUES

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>A novel and/or dramatic introduction</td>
<td>62.5 (25.0)</td>
</tr>
<tr>
<td>The use of apparatus</td>
<td>91.7 (29.2)</td>
</tr>
<tr>
<td>Questioning</td>
<td>83.3 (12.5)</td>
</tr>
<tr>
<td>A sequence of progressions</td>
<td>83.3 (8.3)</td>
</tr>
<tr>
<td>Setting a problem in advance</td>
<td>37.5 (0.0)</td>
</tr>
<tr>
<td>Giving an outline of the course</td>
<td>8.3 (0.0)</td>
</tr>
<tr>
<td>Others</td>
<td>16.6 (8.3)</td>
</tr>
</tbody>
</table>
sent below them in ordinary rating.

One must remember, both the paucity of the sample and the difficulty of analysing and defining one’s own technique in teaching. It would appear, nevertheless, that most teachers endeavour first to excite the interest of the children, to make their lessons impinge on the children’s senses, and to put the onus of advancing the lesson on to the class. Such a summary seems well exemplified by one of the teachers who wrote his own statement, “Getting the children interested in a subject and letting them enjoy learning it.” The three other teachers who used this part of the list wrote, “Visits to museums or places of interest,” “Pupil participation under the teacher’s guidance,” and “The doing of good work for the personal satisfaction of knowing you have done your best.”

Parents’ methods of fostering interest as shown in Table XVI, indicate that a large proportion of parents give help with school work, a method which, by its intimate atmosphere, probably has a very favourable effect on the child’s interest. The other methods listed are incentives that appear to suffer from an over-emphasis on extraneous objectives. In this connection, it is interesting to note the weighting given to the social motive of the appeal to a good job,
### Table XVI

**Percentage Ratings of Parents’ Preferences for Methods of Fostering Interest**

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage of Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giving help with school work</td>
<td>66.2</td>
</tr>
<tr>
<td>Saying that the knowledge will be useful in later life</td>
<td>45.4</td>
</tr>
<tr>
<td>Saying that good school work will lead to a good job</td>
<td>45.4</td>
</tr>
<tr>
<td>Promising a reward</td>
<td>18.5</td>
</tr>
<tr>
<td>Giving encouragement to beat others</td>
<td>18.5</td>
</tr>
<tr>
<td>Others</td>
<td>13.6</td>
</tr>
</tbody>
</table>
equivalent as an ordinary device to the utility motive of the second method, but emphasised more heavily. Judging from the high correlation obtained between children's and parents' ratings of the effectiveness of rewards used at school, it may be that such home influences as are shown here are of some importance in motivating the children. However, although almost all parents checked this list, only fifty-seven percent indicated their choice of emphasis correctly, so that the figures for this must be accepted with some reservation.

Of the eighteen other methods given, ten referred to either praise, encouragement, or showing an interest in children's work, factors which could reasonably be subsumed under the first category. The remainder of these indicated more competitive methods, such as competition between brother and sister, or the stopping of privileges if advice is ignored.

6. Organisation

In Tables XVII and XVIII are shown children's preferences for class or group organisations, and the reasons for the preferences. Sex differentiations are not discernible, and the results therefore are given for children as a whole.

The results show that children greatly prefer to work in a class with the teacher in charge than to have a child as
### TABLE XVII

**Percentage Ratings of Children's Preferences for Class or Group Organisations**

<table>
<thead>
<tr>
<th>Choice</th>
<th>Percentage of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working in groups</td>
<td>23.3</td>
</tr>
<tr>
<td>Working in class</td>
<td>71.4</td>
</tr>
<tr>
<td>Not answered</td>
<td>4.3</td>
</tr>
</tbody>
</table>

### TABLE XVIII

**Percentage Ratings of Children's Reasons for Preferring Class to Group Organisation**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better behaviour by the children</td>
<td>49.4</td>
</tr>
<tr>
<td>Better teaching methods</td>
<td>37.9</td>
</tr>
<tr>
<td>Other reasons</td>
<td>12.6</td>
</tr>
</tbody>
</table>
a leader in a group. It does not necessarily follow, however, that children prefer class work to every kind of group work, for the latter may be used in less distinct and obvious ways than that given as a choice. In any one subject, the teacher may so organise his class that the members of any particular ability group are not physically separate from the rest of the class, except for a few minutes each day. Nevertheless, for the purposes of the survey it seemed necessary to define the question as specifically as possible.

Reasons for preferring group to class organisation are varied, and cannot be grouped in any simple way for analysis, except that four children said that learning in groups was more fun, three that it was more interesting, and four that it helped with reading. Samples of other reasons given are, "You learn more with your friends," "We are allowed outside," and, "We do charts and many other things."

However, the reasons given for preferring class organisation fall into two definite categories, followed by a third containing a smaller number of miscellaneous reasons.

The first category contained statements dealing with behaviour of the children and the more adequate control by the teacher. The majority of these referred specifically to less noise and improved behaviour as deciding the choice.
The second category was characterised usually by a simple statement of better teaching methods, such as, "You learn more," which was most common, and, "He helps you," which was almost as frequent. The variety of other reasons is characterised by these examples, "You get good work to do," "The teacher jokes with us," "The leaders are too hard," and, "We know we can do it."

Since almost half of the children who prefer class organisation mention as a reason some behavioural factors, it may be that the success or otherwise of such group methods as these depends heavily on factors of control being suitably transferred from the teacher to the pupils. Presumably, a quiet, orderly, and well organised situation is much preferred to one that is not so well defined, and is more distracting.

From the evidence available from the study of group dynamics, a further reason for preferring the class lesson may be relevant here. It has been found experimentally \(14\) that the fact that a group is organised on an authoritarian basis, can be a serious source of upset, very like that described by some of these children. A democratically structured group, where responsibility for decisions and work is shared by all members, has been found to result in a greater work output, and in less aggressive behaviour.\(15\)

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Class teaching by authoritarian methods may work well simply because of the prestige or personality of the teacher, but this structure cannot readily be transferred to groups of pupils with a guarantee of success.

This, of course, is far from being a full account of what happens in a group situation, but rather is suggestive of points of reference for future investigation. In view of the results for teachers showing that group methods of teaching are used somewhat less frequently than class methods, it may be somewhat unfair to the group method to ask children to choose between the two. Certainly the results and reasons are of value, but if group methods are considered only as an adjunct to class teaching, the requirements of an either-or judgment may be perhaps unjustifiable.

In summarising teachers' opinions of the effectiveness of organisation (see Tables XIX and XX), the check lists used were not such that the answering of one item excluded the indication of another opinion. In this respect they resembled the checking of rewards and punishments, where a degree of emphasis was sought, rather than the mutual exclusiveness of the choice given to children.

A comparison of the preferences for using groups
### TABLE XIX

**PERCENTAGE RATINGS OF TEACHERS' OPINIONS ON THE USE OF CHILDREN AS LEADERS**

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders appointed as rewards for good work</td>
<td>33.3 (4.1)</td>
</tr>
<tr>
<td>Everyone gets a turn</td>
<td>66.6 (33.3)</td>
</tr>
<tr>
<td>Only the most suitable appointed</td>
<td>33.3 (20.8)</td>
</tr>
<tr>
<td>Most children do their jobs well</td>
<td>50.0 (0.0)</td>
</tr>
<tr>
<td>With some, it is a waste of time</td>
<td>58.4 (4.1)</td>
</tr>
</tbody>
</table>

### TABLE XX

**PERCENTAGE RATINGS OF TEACHERS' OPINIONS ON THE USE OF GROUPS**

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of groups under leaders wherever possible</td>
<td>29.2 (8.3)</td>
</tr>
<tr>
<td>Use of groups under leaders in some lessons</td>
<td>70.8 (12.5)</td>
</tr>
<tr>
<td>Preference for teaching whole class</td>
<td>37.5 (8.3)</td>
</tr>
<tr>
<td>Use of groups disliked</td>
<td>0.0 (0.0)</td>
</tr>
</tbody>
</table>
whenever possible and the preferences for class teaching, shows a slight bias towards the class method, although the emphasis is equal. Thus, the meaning of groups used 'in some lessons' is important. If 'some' means either 'a little' or 'a great deal', or neither of these extremes, the rating for that item would have to be considered separately. However, if, as is suggested, 'some' means 'less frequently' rather than 'more frequently', the results for that item could be construed as favouring the class method. On the other hand, no teacher indicated a dislike of group methods. Thus, even though it is assumed that class work is preferred and used more often, it is suggested again that these two methods are best used not in competition with each other, but in co-operation.

The data on the use of leaders in Table XIX shows that teachers like to give as many children as possible an opportunity of accepting responsibility, despite the rather higher rating given to the fact that some children perform poorly. The highest rating in both the ordinary and the emphasised sections, that of giving everyone a turn, seems somewhat inconsistent in the face of the indications of poor performance; but it must be noted that the first item, appointing children as leaders as a reward for good work, and the third, appointing only those most suitable, are, to a certain extent, mutually exclusive. It could be however,
that those children who do good work are considered to be the best suited as leaders, although there is no check on whether teachers who marked both items had this in mind. The emphasis marks show that the suitability of leaders is an important consideration.

7. **Reports to parents**

Although, according to Table XXI, over half the sample group of parents were satisfied with the reports brought home by their children, those who made suggestions agreed on several points. The open statements made were classified into four main groups.

The first group wanted more comments and detailed information from the teacher, including comments on each subject and statements of the child's attitude to work, and his social behaviour. The second group preferred to know the marks attained out of a known total, rather than a qualitative term, such as V.C.+ or G-. These two groups together comprised two-thirds of all suggestions. The third group wanted to know the child's place in class examinations, while the fourth preferred a report based on a review of work done over a period, such as a term or a year, rather than on the results of a single exam. In the miscellaneous group, one parent wanted an interview with the teacher, and the other asked that reports
<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Percentage of Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>More detailed information</td>
<td>13.8</td>
</tr>
<tr>
<td>Quantitative rather than qualitative terms</td>
<td>13.8</td>
</tr>
<tr>
<td>Knowledge of child's place in class</td>
<td>8.4</td>
</tr>
<tr>
<td>Review of work over a period rather than results of one examination.</td>
<td>4.6</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>0.8</td>
</tr>
<tr>
<td>Satisfied</td>
<td>37.7</td>
</tr>
</tbody>
</table>
should be sealed.

From these results, it appears that some consideration should be given to producing a report which supplies more of the kind of information that parents want. At the same time, consideration would probably need to be given to the provision of a format which would not put too much strain on the teacher, such as a check list of attitudes, for example. It may be that more frequent, and somewhat less crucial reports should be issued, with the two usual half-yearly ones continued.

Although most of the results from the pilot survey were rendered invalid by the apparent lack of definiteness in the instructions, the directions for this section were left unchanged. The results gained were strongly in favour of quantitative rather than qualitative marking of scholastic achievement, over seventy-five per cent indicating such opinions. In this sample group of parents of one whole class, the format of the report considered was different from that supplied on request by the local education board. However, this matter was not specifically investigated in the final questionnaire.

8. Proposed changes

Table XXII shows that teachers agreed strongly with parents in the selection of changes listed, the first three
<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Teachers</th>
<th>Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents to have easier access to teachers</td>
<td>45.8 (0.0)</td>
<td>25.5 (1.5)</td>
</tr>
<tr>
<td>Smaller classes</td>
<td>95.8 (75.0)</td>
<td>59.3 (28.5)</td>
</tr>
<tr>
<td>More specialised rooms</td>
<td>79.2 (4.1)</td>
<td>50.3 (11.2)</td>
</tr>
<tr>
<td>More material</td>
<td>79.2 (0.0)</td>
<td>55.6 (12.0)</td>
</tr>
<tr>
<td>Different scheme of promotion</td>
<td>12.5 (0.0)</td>
<td>14.3 (4.5)</td>
</tr>
<tr>
<td>Others</td>
<td>12.5 (4.1)</td>
<td>5.2 (0.0)</td>
</tr>
</tbody>
</table>
preferences in each group being far ahead of the rest in ordinary rating. However, the teachers using the emphasis marks were, understandably, almost unanimous in the opinion that smaller classes was the most pressing need. Although they marked two other items, provision of more material and provision of more rooms, almost as frequently, they practically ignored these as factors of the highest importance. Parents, although marking a large number of items in the list, were, understandably also, a little less certain as a group of the most urgent needs of the school.

All statements that were written in are quoted in full. Seven parents wrote, "More team sport," "More attractive rooms," "More sports and equipment for them — teacher enthusiasm, by overtime pay if necessary," "Promotion truly on merit," "Each class in own room," "Specialists," and "These changes do not teach the heart of the matter, except (b). Others unnecessary for interest with a good teacher and a consequently interested pupil" Three teachers suggested, "Having some specialist teachers in each room; "Intensive well-controlled group work wherever possible, with plenty of incentives," and, "Greater emphasis on doing."
CHAPTER V

SUMMARY AND CONCLUSIONS

Using the survey, and taking a consensus of the results, several conclusions may be established. In conjunction with these, it is necessary to appraise the significance of the questionnaire which depends on three main factors. In the first place, the sample group must not only be of a reasonable size, but it must also represent a fair cross-section of the group being judged. In this study, the random sampling of 3.4 children and their parents, as carried out by the teachers, should have ensured this. The teachers themselves represented about half of those teaching 3.4 classes in Christchurch public primary schools, allowing one 3.4 class per school. Some schools would have two such classes, in which case the sample of teachers would be further below half.

Secondly, the scoring method is important. In this survey some sections provided for the gaining of a weighting of opinion, rather than forcing a direct choice. However, some provision was made for desired emphasis by means of the double-tick system adopted. Some consideration was given to alternative methods of tabulation. The rank-order method, for example, would have been simpler, but would have suffered from showing little emphasis, which the emphasis method guarded against.
The third factor is the interpretation of the questionnaires. As discussed above, it is most difficult to present a problem to different groups in such a way that the question means approximately the same to each group. It may well be impossible to do this, because each group views problems presented to it in the light of its own experience, knowledge, and personal concern. The investigator must also be cautious in his own interpretation of the answers and results given, and take due account of such possible modifying factors as the proportion not answering a question at all.

 GENERAL SUMMARY OF THE SURVEY

With these cautions in mind, the following conclusions are offered.

1. In general, children like most school work. This conclusion is supported by evidence from children's own general statements and those of their parents, and also by the fact that at least one fifth of the children could not name one school subject they disliked. There is more affinity in feelings and opinions about school work between children and parents than between teachers and parents, or teachers and children.

2. Teachers and children agree strongly in preferring arithmetic and social studies as school subjects. Children
like spelling as well, but express some dislike of both essay and arithmetic. Teachers do not agree with the children's preference for spelling or dislike of essay and arithmetic; their dislikes are notably handwork and nature study. These are the clearest features of subject preferences. The reasons for the teachers' ratings of preferences were interesting but somewhat inconclusive. Personal interest was rated most often for the liked subjects, with children's interest a close second. No distinct reason emerged to explain teachers' dislikes, except possibly the negative result that very few teachers named lack of interest by the children. It appeared that the children's preference for a subject depends largely on pleasant associations with it, arising, it is suggested, from a feeling of success in mastery of it.

3. Some sex differences were recorded in the results for subject preferences and for punishments, but there was, throughout the survey, a general lack of evidence of differences between boys' and girls' ratings.

4. Results in the section dealing with rewards appeared to indicate that teachers were a little out of touch with the preferences of both parents and children. No stronger general assertion is warranted because of the lack of certainty in interpretation of both this section, and that dealing with punishments. Nevertheless, it can be noted that parents and children prefer to have more exact evidence of achievement
and approval in school work than they have at present.
Interpretative difficulties are shown by the teachers' general
agreement that the primary emphasis should be on feelings of
success. To this extent they supported the ratings of pupils'
reasons for subject preferences.

5. Judged by the results gained, the effectiveness of
any one kind of punishment as a general method of motivating
children cannot be assumed. Probably, the effectiveness or
otherwise of such a procedure depends on factors more specific
to the particular situation.

6. In teaching procedures, teachers tend to find most
useful for children's interest, those methods of teaching that
are close to the traditions of the psychological movement,
that is, the use of apparatus, questioning, and a sequence of
progressions. It will be remembered that this section was
concerned, not with the methods most often used, but with those
best fostering interest. It is appreciated that an honest
answer to this section would require careful analysis.

7. Parents' ratings of methods of fostering children's
interest showed that they favoured helping children with school
work. To a lesser extent they emphasised the later utili-
tarian advantages of school knowledge in both ordinary life,
and in securing a good job.

8. In choosing between class lessons and group organ-
isation with children as leaders, children, and to a lesser
extent, teachers, agreed that they preferred the former method. As reasons for their choice, children named more orderly situations and better teaching methods. In organising groups, teachers favoured the delegation of authority only to suitable children, but found that most children performed well.

9. Parents’ opinions were almost equally divided on the question of the value they put on the school reports they receive. As the form of the report was not specifically investigated, caution must be exercised in estimating the value of the suggestions offered for improvement. Those who were not satisfied agreed on the desirability of having quantitative results and more detailed information.

10. Teachers and parents agreed on the desirability of introducing several changes in school facilities. This agreement was expressed not only in the order of necessity of the proposed changes, but also in the emphasis on the primary need being smaller classes.

In the survey, a wide field of influences was considered necessary for investigation, because of the number of possible factors that could influence the question studied. Naturally, it would be impossible to gain worthwhile information on all these factors in one questionnaire, and thus some selection of areas of inquiry was necessary. The number of ratings made, and, where necessary, opinions expressed, indicated the concern that sample group felt for the problem of interest in school work. It is thus contended that the survey has justified the statement
of necessity expressed in earlier chapters. The breadth of the investigation has brought out some deficiencies in the depth of the inquiry into each aspect. However, with these results available, material for further research is provided.

Conclusion

The earlier chapters have been designed to discuss and clarify the question of children's interest in school work by bringing together the historical background, the contributions of psychology, mainly from an educational point of view, and an investigation into some of the factors impinging on school practice at a particular level. It is suggested that, while the earlier part of the study provides a synthesis of some of the main factors of interest, the survey, while contributing some confirmation, and contradiction, of other findings, raises more questions than it answers. Thus it should be considered as a broad basis of interest, providing some growing points for further research, rather than a deep penetration into the problem. It is not thereby implied that the study covers all aspects of interest.

Indeed, it is worth reiterating that this problem is so wide that only aspects of it can be studied. Further, the question must be examined in a context of educational aims, provision of amenities, school traditions, professional training of teachers, and the prescribed curriculum, on each of which interest is contingent. This is not to mention the greater
society of which the school is an institution, and which both supports the school and demands certain standards of its products. The frame of reference must therefore be most specific, even in a study which examines the problem of interest in a general way. Thus, an investigation into interest, although influenced by greatly divergent factors, is rather limited in its scope. Even in this narrow scope however, it is apparent that there are still a number of problems to be solved, and areas of knowledge to be further investigated.

1. In reference to school practice, there is a great need of more careful distinction between learning and performance, or practice of what has been learned, and the problems connected with these. While some contributions to each of these have been made, there is need for a more specific inquiry into their applications. Probably this could best be done by supplementing the questionnaire with some observational techniques in the classroom. Such questions as these could be delved into: What methods of teaching seem to foster the greatest interest by children learning school work, and by children practicing school work? As most young teachers, after certification, see scarcely anyone else teaching, would it be possible or desirable for them to observe the methods used in highly rated classrooms? Is the simplest transference of interest to children's learning facilitated by a particular teaching method, or by a particular personality? Can the prescribed curriculum be more deeply related to the experience
and needs of children, so that intrinsic interest might better develop? In order to vitalise their approach, do teachers need more freedom or more expert guidance?

2. Because of the high preference ratings given to certain subjects by both teachers and children, there seems to be a place for further investigation into the characteristics of those subjects, the methods by which they are taught, and the reasons given for the preferences. When such information is available, some attention could be given to the possible transfer of significant aspects of those subjects to others. Equally, there seems to be a necessity for the investigation of certain other subjects in order to remove the expressed distaste for teaching and learning them. Other questions arise also: Are these subject preferences and dislikes dependent on factors of age, or intelligence? Are they a function of the prescribed curriculum, or a particular kind of teacher training? To what extent are the preferences indicative of high attainment, or valuable for prognosis of special abilities?

3. The question of rewards and punishments and their most appropriate uses needs further examination, as there is probably some confusion over the part that each plays, or should play, in school situations. This problem could be clarified by research designed to answer such questions as:

To what extent do these techniques actually motivate
performance? To what extent do they assist in establishing and maintaining some of the essential conditions of learning or performance? Are those devices mentioned in this survey satisfactory only in respect of a particular age group, or may they be applied more widely? What are some of their uses and dangers from the point of view of mental health of children? Again, observations of highly rated classrooms should prove valuable supplements to more specific questionnaire results.

4. School reports may warrant further examination, involving the collection and evaluation of different types of format, with a view to providing more and different information of this is found necessary. The importance to parents and children of knowledge of results may warrant the use of more frequent and perhaps less crucial tests, in addition to the major surveys used at present. As a sound means of motivating the performance of school work, and as an additional basis for promotions, such investigation may well prove to be justified.

5. In view of the number of ratings made on the proposed changes, it may be necessary to make some inquiry into the physical conditions of schools. It is common knowledge that administrators are working in a difficult period of great expansion and are not satisfied with such conditions as large classes, too few classrooms, and insufficient equipment. However, an inquiry into the problem could provide some primary data, so that if new policy was thought desirable, it could be implemented with the least delay. The problem, of course, is
affected by a number of factors such as population trends, but
not the least of these is the welfare of the child. In this
investigation, such topics could be dealt with as the value of
various kinds of group work under optimum conditions, and the
question of the use of specialist teachers at the primary level.

While school practice would probably not be affected
by such investigations for some time, the problem of interest
vitally concerns all educators and educands. Therefore it
should be examined from these and other points of view, and,
if thought necessary, improvements should be introduced as soon
as possible.
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A SELECTED BIBLIOGRAPHY

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