

# Job Analysis as a Basis for Teaching

A Study Showing How Job Analysis May Contribute to the Techniques of Education

By EDGAR A. DOLL

Director of Research, The Training School at Vineland, N. J.

## Introduction

ONE of the most significant trends in education today is the shift from a stereotyped academic education to the much wider field of human endeavor. In our time the public school assumes many educational responsibilities formerly carried by the home and by the guilds. The almost revolutionary changes of modern civilization practically compel the school to carry the burden of providing formal instruction for nearly all phases of social adaptation with which the youth of today are confronted, a task which formerly was divided among all sorts of community agencies or else was left to individual adaptation in relation to individual growth and development.

Today we see the school educating its pupils, not only for living but also for a livelihood. We see it endeavoring to bridge the gap between the period of infant education and of adult civic responsibility. The traditional curriculum of the monastery, the classical colleges, and the private academies is giving way to the demands of an industrial civilization which will not be denied.

Coincident with this tendency is the tremendous extension of education from the few to the many. Formal preparation which only one hundred years ago was limited to the upper classes is now not only free to everyone but even compulsory. It is not surprising that an education designed for the masses should be different from that of the privileged classes. Neither is it surprising that the tremendous increase in the pupil body should result in a "quantity production" type of education. It is almost inevitable that education on such a large scale should resort to scientific technique in the interest of economy and efficiency. Our generation is, in consequence, witnessing a movement in educational engineering which quite properly utilizes the methods of industrial organization and scientific

management, namely, (1) research as a basis for policy and practice, (2) modification and standardization of procedures based on the established facts discovered and formulated through research, and (3) supervision of practice supplemented by measurement of accomplishment.

Let us waste no time in regretting these changes, but rather let us do what we can to direct these tendencies from crass industrial and commercial exploitation, and continue to hold high the educational ideals of cultural and intellectual freedom. Education can no longer pretend to be a science unless it conforms to the essential tenets of all science, viz., observation and experiment, control of variables, and systematized organization of facts and principles.

The first steps of this efficiency movement were taken nearly one hundred years ago when the feeble minded were recognized as individuals having a right to a type of education especially suited to their peculiar needs and capabilities. Special education for the blind and the deaf led to this innovation. It is only within recent years, however, that these principles of differentiated education have been applied to gifted children. The amazing developments in psychology which have made possible the effective classification of all school children in ability groups opens educational vistas heretofore unseen.

Perhaps it is unfortunate that the more modern movements for classification of pupils is limited to an intelligence classification, yet there is but little doubt that a few more years will witness further elaboration of these principles by making possible classification according to social and mechanical abilities as well. The individual is something more than a thinking being. He must also live in social contact with his fellows governed by his feelings and emotions, and he must be a productive unit in an economic world as well.

June, 1929

BULLETIN OF THE TAYLOR SOCIETY

135

Unfortunately, many educationists fail to see that classification is only a means to an end and that the differentiation of pupils in ability groups leads naturally to the more serious problem of differentiation in curricula. After classification, what? The immediate consequence of the classification of children according to intelligence is the revelation of differential educational objectives for these groups. The moron cannot hope to be president, nor will the child with an I. Q. of even one hundred become the intellectual leader of the day. The able few will continue to lead, and the less able many will continue to follow.

But if the public school is to fulfill its responsibility of directing social evolution for the progress of civilization it must educate both the leaders and the followers. It must develop the best talents of each group according to their native endowment and individual tendencies. In other words, the school must bring about a systematic correlation of individual native abilities with ultimate social and industrial activities, but in so doing it must not lose sight of cultural values, of intellectual freedom, and of political democracy. We dare not contemplate a system of education with blind alleys and closed doors any more than we dare continue the folly of assuming that every child who enters the kindergarten may some day be a doctor of philosophy.

## Public Institutions as Laboratories

Our country has established numerous institutions for the care and training of various types of social misfits and for the physically handicapped. Most states have provided public institutions for the care and education of the criminal, the delinquent, the blind, the deaf, the feeble minded, the dependent, and numerous other socially handicapped groups. But in only a few states are these institutions truly educational and in practically none of them are the possibilities of experimental education being realized.

As one studies the tendencies in social and educational evolution, it becomes evident that particular classes of people are more and more receiving specialized care. This movement has already reached the public schools. Our leading cities now provide separately for crippled children, tubercular children, the visually handicapped, the anemic, the incorrigible and numerous other special groups of

children. These special classes and those found in state institutions are usually faced with a much more highly specialized type of educational problem than is the undifferentiated public school classroom. The social outlook for the inmates of institutions is restricted in many instances. The more advanced of these institutions, following the newer developments in science and in education, are endeavoring to adapt their methods to the restricted futures of their inmates. In the institutions for the feeble minded, for example, experience has indicated that only a very limited number of these persons will ever be able to take their places in society, and that even these will require more or less supervision and will not rise above a very low social and cultural level. Those institutions which are performing their tasks most conscientiously and effectively have long since adopted the principles of classification, while some have recently conceived the notion of differential objectives.

In an institution for the feeble minded it is well known, and it can be predicted very early in the life of an individual, that idiots will never be able to do more than feed themselves and care for their bodily wants. Even the best of the idiots under the most promising methods of training do not learn to dress themselves, and do not develop any command of thoughtful speech. Likewise the imbeciles are incapable of learning anything, but the simplest elements of reading, writing and counting, and make such limited progress that even these elements are hardly worth teaching. And among the morons it is well known that even the brightest of them only rarely become able to live independently in society. They never get beyond about fourth grade schooling and never acquire skill beyond the most mechanical or routine or elementary trade and industrial processes. In the education of these unfortunates, therefore, we dare not contemplate a visionary system of education. Instead we must constantly strive to extend the limits of their educational possibilities by increasing the efficiency with which they may be trained or taught.

## Implications of Industrial Psychology for Education

Industrial psychology is one of the most recent branches of applied psychology and promises to exert a most significant influence on industrial life and commercial organization. Industry criticizes