

ANALYSIS OF DAIRY WORK OF CHILDREN

SEX	INTELLIGENCE	PERSONALITY	ATTITUDE	LITERACY	CLEAN	CAMPY	LEAD	STEADY	DEPENDABLE	HEALTHY	INDUSTRIAL
M	3.1.4	3	3	3	3	3	3	3	3	3	3
M	3.2.3	3	3	3	3	3	3	3	3	3	3
M	3.3.3	3	3	3	3	3	3	3	3	3	3
M	3.4.3	3	3	3	3	3	3	3	3	3	3
M	3.5.3	3	3	3	3	3	3	3	3	3	3
M	3.6.3	3	3	3	3	3	3	3	3	3	3
M	3.7.3	3	3	3	3	3	3	3	3	3	3
M	3.8.3	3	3	3	3	3	3	3	3	3	3
M	3.9.3	3	3	3	3	3	3	3	3	3	3
M	3.10.3	3	3	3	3	3	3	3	3	3	3
M	3.11.3	3	3	3	3	3	3	3	3	3	3
M	3.12.3	3	3	3	3	3	3	3	3	3	3
M	3.13.3	3	3	3	3	3	3	3	3	3	3
M	3.14.3	3	3	3	3	3	3	3	3	3	3
M	3.15.3	3	3	3	3	3	3	3	3	3	3
M	3.16.3	3	3	3	3	3	3	3	3	3	3
M	3.17.3	3	3	3	3	3	3	3	3	3	3
M	3.18.3	3	3	3	3	3	3	3	3	3	3
M	3.19.3	3	3	3	3	3	3	3	3	3	3
M	3.20.3	3	3	3	3	3	3	3	3	3	3
M	3.21.3	3	3	3	3	3	3	3	3	3	3
M	3.22.3	3	3	3	3	3	3	3	3	3	3
M	3.23.3	3	3	3	3	3	3	3	3	3	3
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M	3.27.3	3	3	3	3	3	3	3	3	3	3
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M	3.29.3	3	3	3	3	3	3	3	3	3	3
M	3.30.3	3	3	3	3	3	3	3	3	3	3
M	3.31.3	3	3	3	3	3	3	3	3	3	3
M	3.32.3	3	3	3	3	3	3	3	3	3	3
M	3.33.3	3	3	3	3	3	3	3	3	3	3
M	3.34.3	3	3	3	3	3	3	3	3	3	3
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M	3.38.3	3	3	3	3	3	3	3	3	3	3
M	3.39.3	3	3	3	3	3	3	3	3	3	3
M	3.40.3	3	3	3	3	3	3	3	3	3	3
M	3.41.3	3	3	3	3	3	3	3	3	3	3
M	3.42.3	3	3	3	3	3	3	3	3	3	3
M	3.43.3	3	3	3	3	3	3	3	3	3	3
M	3.44.3	3	3	3	3	3	3	3	3	3	3
M	3.45.3	3	3	3	3	3	3	3	3	3	3
M	3.46.3	3	3	3	3	3	3	3	3	3	3
M	3.47.3	3	3	3	3	3	3	3	3	3	3
M	3.48.3	3	3	3	3	3	3	3	3	3	3
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M	3.50.3	3	3	3	3	3	3	3	3	3	3
M	3.51.3	3	3	3	3	3	3	3	3	3	3
M	3.52.3	3	3	3	3	3	3	3	3	3	3
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M	3.57.3	3	3	3	3	3	3	3	3	3	3
M	3.58.3	3	3	3	3	3	3	3	3	3	3
M	3.59.3	3	3	3	3	3	3	3	3	3	3
M	3.60.3	3	3	3	3	3	3	3	3	3	3
M	3.61.3	3	3	3	3	3	3	3	3	3	3
M	3.62.3	3	3	3	3	3	3	3	3	3	3
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M	3.67.3	3	3	3	3	3	3	3	3	3	3
M	3.68.3	3	3	3	3	3	3	3	3	3	3
M	3.69.3	3	3	3	3	3	3	3	3	3	3
M	3.70.3	3	3	3	3	3	3	3	3	3	3
M	3.71.3	3	3	3	3	3	3	3	3	3	3
M	3.72.3	3	3	3	3	3	3	3	3	3	3
M	3.73.3	3	3	3	3	3	3	3	3	3	3
M	3.74.3	3	3	3	3	3	3	3	3	3	3
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M	3.78.3	3	3	3	3	3	3	3	3	3	3
M	3.79.3	3	3	3	3	3	3	3	3	3	3
M	3.80.3	3	3	3	3	3	3	3	3	3	3
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M	3.82.3	3	3	3	3	3	3	3	3	3	3
M	3.83.3	3	3	3	3	3	3	3	3	3	3
M	3.84.3	3	3	3	3	3	3	3	3	3	3
M	3.85.3	3	3	3	3	3	3	3	3	3	3
M	3.86.3	3	3	3	3	3	3	3	3	3	3
M	3.87.3	3	3	3	3	3	3	3	3	3	3
M	3.88.3	3	3	3	3	3	3	3	3	3	3
M	3.89.3	3	3	3	3	3	3	3	3	3	3
M	3.90.3	3	3	3	3	3	3	3	3	3	3
M	3.91.3	3	3	3	3	3	3	3	3	3	3
M	3.92.3	3	3	3	3	3	3	3	3	3	3
M	3.93.3	3	3	3	3	3	3	3	3	3	3
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M	3.96.3	3	3	3	3	3	3	3	3	3	3
M	3.97.3	3	3	3	3	3	3	3	3	3	3
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M	3.99.3	3	3	3	3	3	3	3	3	3	3
M	3.100.3	3	3	3	3	3	3	3	3	3	3

Figure 3

the boys now working there all have about the same general characteristics. There is not the same differentiation in their abilities as is evident in the requirements of the unit operations. This suggests what is actually the fact, namely, that the work of this dairy is not specialized as in an industry in which a boy performs certain specific tasks for industrial purposes, but rather that boys are assigned to this dairy on the assumption that they will receive training in all its unit operations. It is therefore necessary that they should have the highest abilities required by the most difficult operation in which they are expected to take training. In other words, boys are not assigned to this department for specific training in unit operations but for general training in dairy work. In only a few instances is the assignment purely industrial. The real division is not so much in the unit operations as it is between the work of the barn as compared with that of the creamery. Boys in the barn do not work in the creamery, and boys in the creamery do not work in the barn simultaneously; but boys working in the barn are expected to do some cleaning, some feeding, some milking, and so on. In other words, they share in common the various unit operations of the particular department to which they are assigned.

In general the policy of training obtains that whenever a child is expected to go through the steps of an occupation it is necessary that he have the abilities required in the highest steps unless, indeed, it is planned that he shall stop at some other level. This study seemingly revealed certain discrepancies, especially with reference to physique, which suggest that the correlation of operative with job is not entirely satisfactory. This lack of

correlation is partly a matter of oversight, and partly a matter of exigency. Thus, a boy with insufficient physique for the work may nevertheless be assigned for the general aura of its training value, and such a boy is not expected to perform all of the actual physical labor involved but only the minor tasks. In other words, such a boy does what he can physically as well as mentally.

The analysis revealed in particular, however, the importance of personality traits, for all observers participating in this study agreed that cleanliness, carefulness, and kindness are desirable personal traits in this particular occupation. Industriousness, steadiness and dependability, while desirable, can be dispensed with because of supervision. This same analysis also revealed the possibility of using such an occupation in the development of desirable personality traits. A boy may acquire cleanliness, kindness, dependability, or any of the other traits, under training, since these are necessary to successful work in this occupation.

Training Organization

Our study of this dairy did not reveal a systematic training program for correlating the step-by-step processes in training. The job specifications show that some operations are much simpler than others, and the individual qualification analysis shows that if sufficient general ability is present it is possible to master all the operations. If the training is systematically organized, there should be some correlation in the individual's progress through the industry. Still more important, our study did not reveal a system of recording progress so that one could say definitely just how much success had been achieved in each operation.³ Perhaps both these failures are somewhat explained by the comparative simplicity of work in this dairy, but the criticism may well be made that with a more efficient system of instruction it might be possible to reduce the job requirements and to use trained persons of lower individual qualifications. If this were done it would mean that we could increase the effectiveness of this training and could open new industrial opportunities to lower grades of children. Or, in other words, we could enlarge the industrial outlook of a larger number of chil-

³A system of recording progress in training with reference to these unit operations based on a more refined analysis is now in operation.

dren who are not now given the opportunity which they should have.

Implications for Education

This report is an argument for the principles of job analysis in education. The analysis is suggestive rather than conclusive and consequently challenges further and better work. It is conceivable that this general method need not be restricted to vocational and industrial training but will perhaps have even broader application in the analysis of manual and academic classroom teaching. We have begun our program of such a training analysis at The Training School with our dairy as the

simplest and most readily accessible occupation. We see no barriers to applying the same method to manual classroom instruction as well as to academic classroom instruction. The analysis of academic instruction in terms of specific requirements and abilities will be relatively more intricate and will require more careful laboratory study. We predict, however, that the demands for the more efficient classroom instruction will ultimately force psychological analysis of our learning situations and that such an analysis will reveal in clear outline not only better and more specific educational objectives, but also some of the broader correlations with all-around individual development.

THE public schools ought to teach the basic requirements of all industries. This can be done if we have suitable job specifications to start with, from which by analysis, we can determine what things are fundamental and thus create curricula with suitable content. Job specifications are also of great value in selecting teaching material. One of the practical difficulties of using the world's work in the schools is that the teachers do not know what the world's work is. I remember when I was teaching physics—it used to be my subject—I saw a great many teachers of physics who were incapable of using the machinery and the applications of physics that are all around them in the classroom simply because they did not know what they were. They knew very little about the manifestations of physics in daily life. These specifications tell exactly what is done on every job. Thus they bring the teacher a content of definite material by which he can bring instruction close to the daily life of his pupils. (Charles R. Mann in *Business Management as a Profession*, edited by Henry C. Metcalf, pp. 137-138.)

IN PROPORTION as management comes to realize the prodigious complexity of the human element it directs, it will also realize that certain principles must be admitted, certain rights and obligations recognized. The worker does not sell his social birthright for the economic mess of potage. Neither are his rights those of a primitive community, but rather the rights of a member of a civilized, educated, and democratic state. Both employer and worker have rights and corresponding obligations. Further, in so far as those rights are ethically dependent upon the due performance of function, the worker must share the rights and obligations of the management, if he be called upon to perform any part of the function of management, just as the manager must share the rights and obligations of the worker, if he be called upon to perform any part of the function of operations. The worker who is taken into consultation in matters of management must accept the obligation to formulate policy upon principles in harmony with the best interests of the community. (Oliver Sheldon, *The Philosophy of Management*, p. 84.)