

Production standards ✓

BUSINESS MANAGEMENT SERVICE

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office work standards

by Robert L. Peterson

INSTITUTE OF
INDUSTRIAL RELATIONS
UNIVERSITY OF ILLINOIS

[Urbana, April 1953]

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UNIVERSITY OF ILLINOIS BULLETIN

VOLUME 50

APRIL, 1953

NUMBER 61

Published seven times each month by the University of Illinois. Entered as second-class matter December 11, 1912, at the post office at Urbana, Illinois, under the Act of August 24, 1912. Office of Publication, 358 Administration Building, Urbana, Illinois.

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By Robert L. Peterson

1. WORK STANDARDS AND STANDARDIZATION

Work Standards

Work standards have been variously defined. Professor Laurence Bethel of Yale, in his book *Industrial Organization and Management*,¹ writes that "A standard is essentially a criterion of measurement, quality, performance, or practice, established by custom, consent, or authority and used as a basis for comparison over a period of time." George Terry of Northwestern, in his book *Office Management and Control*,² writes that a standard "makes it possible for management to compare what is being done with something indicating what should have been done."

The late William Leffingwell, in his *Textbook of Office Management*,³ refers to a standard as "a level of accomplishment which has been set for attainment and by which the degree of accomplishment is measured." Leffingwell also quotes the late Frederick W. Taylor who, in referring to standards, used the term "standard task" to indicate the output which could reasonably be expected within a given period of time from a worker using standardized methods of working steadily.

Work standards, then, refer specifically to quotas, goals, or

objectives, usually expressed in units, which represent efficient performance and production. For example, in transcribing machine dictation a goal or standard may be observed of one cylinder per hour, and in personnel selection a standard may be pursued which calls for the screening of applicants at the rate of four an hour.

Standardization is a broader term referring to the fixing of uniform specifications, practices, or methods. For example, standardization may refer to a plan under which all machines or equipment used must meet predetermined specifications, or to situations where a particular method has been tested and approved and is now being established as the method to be followed throughout the organization.

In setting work standards, it is essential that a concept of the meaning of standard performance be established which will serve as a guide in evaluating employee accomplishment. Standard performance should mean performance comparable to that which would be expected of an adequate, satisfactory employee. It should mean neither superior nor inferior performance, but rather a normal, competent level of accomplishment.

The determination of competency and adequacy must be largely a judgment rating. There is no way to establish work standards without depending to a certain extent on the judgment of the supervisor or the standards analyst.⁴

The primary objective in office management is to achieve standard performance from all employees, that is, performance comparable to that which one would expect from a satisfactory, competent individual. However, employees should also be encouraged to go beyond satisfactory levels into superior levels of performance. Employees should be encouraged to improve their skills and to proceed to maximum levels of production. But when a group of employees achieves production beyond what is considered to be an adequate, satisfactory level, the work standard or quota should not be arbitrarily raised. Rather, such superior production should be regarded as bonus production to be rewarded by official recognition, privileges, or other compensations.

It should be established at the outset that a proper work standard is not equivalent to the mean or average performance of a group. Production averages may serve as interesting indications of the present level of performance among employees, but they should not be promulgated as work standards for a group. This is

because a majority of employees in a group may be high or low in productivity, and, as a result, the average productivity of the group might be far removed from what one would reasonably expect of competent, satisfactory employees.

Work standards, which have been applied in industrial situations for many years, have only recently been introduced into offices. However, there are still relatively few offices where standards have been established which serve as guides in determining what a reasonable day's work consists of for the various positions. There are many efficient-appearing offices in which, surprisingly, supervisors have only the vaguest notion as to the relationship of present productivity to fully adequate, standard productivity. It has long been customary for office supervisors to assign work to employees, let the employees develop their own methods for doing it, take the work when it is completed, and then assume that the staff is producing efficiently.

This is not an indictment of supervisors, for very often supervisors keep such a trained eye on individual productivity that employees are in a sense working under a standard. But in all too many offices, supervisory personnel, bowing to the demands of a heavy work volume, have neglected to evaluate individual performance and establish work goals. It is customary for clerical employees to set their own standards. Some supervisors will contend that they have never set standards on certain routine clerical tasks because they know the employees in question, know their ability, and *trust* their productivity. However, a check of actual productivity against standard productivity as determined by analysis or time and motion study is apt to show a wide discrepancy.

Values of Work Standards

A program of work standards can prove to be one of the most important tools which management has for accomplishing its office functions. Among the values of standards are the following:

1. **Uniformity of product.** The uniform, simplified work procedures which are a cornerstone of the standards program permit management to achieve a corresponding uniformity in the work products. Work standards in an organization assure uniformity of method in filing, setting up letters, reviewing contracts, typing invoices, preparing billings, processing orders, and issuing statements.

2. **Higher work quality.** Simplified procedures, combined with the job instruction which is inherent in a standards program, enable employees to improve the quality of their work. It is understandable that employees cannot readily produce at a high quality level where work methods are cumbersome, procedures lack uniformity, and job instruction is inadequate or totally lacking.

3. **Increased productivity.** Work standards mean reasonable production objectives. These work objectives serve as an incentive and stimulus, especially to employees whose productivity leaves something to be desired. Employees are motivated to achieve a level of competence which will result in an over-all increase in productivity.

4. **Production control.** Work standards are an index of the work potential of employees; they show what management can reasonably expect from employees in the way of production. Accordingly, management is placed in an advantageous position to schedule work requirements and set production estimates and deadlines.

5. **Fuller utilization of personnel.** Where a work standard exists it can readily be determined whether or not employees are being adequately utilized. As the standard is equivalent to competent, satisfactory service, a look at production records will readily show whether or not employees are performing competently.

6. **Improved worker morale.** Where a work standard has been established, employees need have no doubts as to whether they are meeting job requirements or whether the supervisor is aware of their work efforts. The presence of standards also obviates the possibility of certain employees lying down on the job; a practice which, when not detected by supervisors, can cause poor office morale.

Kinds of Work Standards

There are essentially two kinds of work standards: quantity standards and quality standards. In quantity standards the principal consideration is the rate of productivity or the number of units produced in a given period of time. For example, a quantity standard may call for typists to produce 150 lines of typed material per hour or for clerks to check and approve 240 invoices per day. In quality standards, the principal consideration is, of course, accuracy

and precision. A quality standard is usually set where the quantity factor is of secondary importance. For example, a quality standard may establish a spoilage norm of one contract per twenty contracts typed.

There are also quantity-quality standards, where both the number of units produced in a given time and the accuracy of the production receive consideration.

The Supervisor and Standards

The supervisor plays an important role in a standards program. In many cases the supervisor must set the standards, install them, and see that they are applied. In larger companies, analysts may be brought in from the outside to set work standards, but even so the supervisor plays a leading role through his work with the analyst and his task of checking employee performance against standards.

The concept of work standards should not be difficult for supervisors to assimilate since they must employ it in carrying out nearly all of their responsibilities. For example, in the selection of employees, supervisors must evaluate prospective employees in terms of a standard. In carrying out their work improvement responsibilities, supervisors are expected to train workers in order to bring them to a level of competent, satisfactory performance. In evaluating employees and in recommending promotions, transfers, and dismissals, the concept of what constitutes and how well the employee meets adequacy of performance plays an important role. Similarly, the work standards concept is essential to the supervisor if he is to recognize and maintain a satisfactory level of production among employees.

Requisites of Work Standards

Good work standards have several requisites. Certainly the first (1) requisite is accuracy. If a work quota or standard is inaccurate it will obviously be of less than maximum value. The standard should be developed after a careful analysis of the duties involved and following a study of current production levels among competent employees. Work standards, as mentioned before, should represent neither superior nor inferior performance, but rather a "cruising" level of productivity. Standards which are too low fail to provide any motivation, and, contrariwise, standards which are too high are

frustrating and discouraging to most employees because they are not within reasonable reach.

Further, (2) a standard should be workable and acceptable. To be workable the standard must be acceptable to those who will use and abide by it. There are many reasons for standards proving unacceptable. Employees may feel the standard asks too much of them, or the standard may prove unacceptable merely because employees were not consulted during its formulation. Probably the best way to gain acceptability for a standard is to consult with both employees and management during the development of the standard.

Finally, (3) standards should be flexible. The standard set today for reconciling freight vouchers against monthly billings may prove inadequate tomorrow because of minor changes in work requirements. It is well to schedule periodic reviews of work standards in order to insure that they currently represent accurate, workable, and acceptable production goals.

Work Standards in Action

The analysis and improvement of current procedures and the setting of work standards can bring about appreciable gains. In one organization, a contract clerk had the job of receiving dealership contracts from branch offices. It was her job to review the contract in order to determine whether it had been filled out accurately, legibly, and completely. The contract form was long and detailed and the reviewing procedure required not only a study of all entries on the document but also the checking of each financial clause against the individual contract agreement in effect with each branch manager. Contracts came in at the rate of 25 or more a day, and the review and assembly of necessary papers for the processing of the contracts had for several years been the full-time job of this clerk.

When an analysis was made to determine just what the work involved and how it was being performed, it was discovered that what had long been considered a complex job by the supervisor of the unit was not so difficult after all. It was found, however, that the contract clerk had developed poor work habits because of a faulty training period when she first went on the job. Instead of having developed a streamlined operational sequence for the examination of contracts, she pursued a haphazard routine which some-

times called for the examination of the contract to proceed from the front to the back of the several-page document, and which sometimes proceeded from back to the front. The rubber stamps which were used in affixing dates, and the seals used at appropriate places on the contract, were kept in the canyons of her desk, as were the cards showing the agreements with branch managers which had to be referred to with some frequency.

Needless to say, the analysis which was made indicated a work potential considerably in excess of the three contracts customarily processed per hour. By setting up a procedural sequence for the review of contracts, by bringing work materials into easy reach, and by setting a reasonable production standard, work productivity was increased to a point where all contracts were completed by one-thirty each afternoon, thus making the clerk available for three and one-half hours of other duties daily. And the interesting development was that the clerk seemed to welcome the change, even though it meant additional duties for her.

Office Standardization

Standardization, as indicated earlier, refers to the fixing of uniform specifications, methods, or practices. We are indeed fortunate that standardization has developed as extensively as it has. Through standardization we have universal units of measurement for length, area, volume, and weight. Other standardized units are the ampere, ohm, and volt in electricity. Time, too, has been standardized into minutes, hours, days, weeks, and years.

In office situations we have had dimensional standardization for years in the form of desks of standardized heights, filing cabinets which will hold standardized file folders, and paper of standardized length and width. We take this standardization quite for granted and are apt to overlook the possibilities which exist for further standardization.

In 1947, the American Standards Association, with the cooperation of the National Office Management Association, turned its attention to the further standardization of office supplies and equipment. With reference to typewriters alone, projects are underway for the standardization of ribbon spools, the ribbon feed mechanism on typewriters, the typewriter keyboard, and the length of cord to be attached to electric typewriters. Work is also underway on the standardization of office titles and job descriptions.

If the reader were asked to head a program of standardization in his firm, there are many areas in which he might work. The standardization of methods and procedures would likely prove most productive of long-term savings. He would also wish to consider the standardization of office supplies, machines, correspondence styles, job specifications, titles, and forms.

The standardization of office forms can, in itself, result in considerable economies. In the course of a forms survey undertaken in an organization of medium size, it was found that over 200 different forms were in use. Through a study of the procedures in which each form was used and after reviewing the functions served by each form, it was possible to reduce the total number of forms from 226 to 132 through a process of combining, simplifying, and eliminating the functions served by each form.

2. PLANNING THE WORK STANDARDS PROGRAM

Management Support

The work standards program may prove of interest and value to individual offices within an organization. But considerably greater gains can be achieved when a company-wide interest is shown in the program. Top management should take the initiative and delegate sufficient authority to staff members to permit the carrying out of the program. In the absence of sufficient authority, the program will be unduly hampered by those opposing it, and supervisors all along the line will ask, "What does my superior think of this program?" If there are any questions on the part of top management as to the support it wishes to give the program, this feeling of indefiniteness will make itself felt and the effectiveness of the program will suffer.

For a firm undertaking a new program of work standards and standardization, the committee form of organization may produce good results. Its action may prove slower, but this disadvantage will be offset by the values achieved through having as supporters committee representatives from various parts of the organization. A standards analyst, working under such a group, will have greater acceptance in the organization than an analyst reporting directly to a member of top management.

The Standards Analyst

The employee designated for standards work must be a versatile person. He must have business experience in systems and procedures work, and he must have tact and curiosity. As is apparent, a good analyst will usually have more than enough work in an organization to keep himself busy. Demands on him for standards revisions and for new and improved procedures will frequently exceed his ability to produce.

It is important that the analyst be alert to new developments in commercial practices, office equipment, and supplies. The standards man must know what is going on, both in the business he represents and in the commercial field, and he must compare notes frequently with his colleagues in other firms.

Job Analysis

One of the first procedural techniques to be undertaken in setting work standards is job analysis. Knowing the *what* and the *how* of a given job is important in the determination of the work standard. Any of several job analysis forms may be used. The form shown in Figure 1 has been used widely. The four principal steps to be taken in preparing a job analysis are as follows:

1. **The position must be determined.** This is the simplest step and consists merely in determining the scope and title for the position, which will distinguish it from others, as, for example, Junior File Clerk.

2. **Next, the major tasks in the position must be determined.** A position may have but one major task, or it may have several. For example, a filing position may have these four major tasks: (1) obtaining the records, (2) preparing the records for filing, (3) filing the records, and (4) finding the records.

3. **Next is the determination of the operations in each major task.** Each operation must represent a sequence of steps complete within itself. Using as an example the file clerk position described above, we may say that in one of the four major tasks, "preparing the records for filing," there might be the following operations: (1) segregating the records into groups, (2) inspecting the records, (3) reading the records, (4) indexing the records, (5) coding the records, and (6) preparing cross references.

4. **Finally, one must determine the steps in each operation.** The step is the smallest unit in each operation. Following the example we have been using, the steps would indicate how each of the operations was accomplished. Using this example, we may say that in one of the six operations, "segregating the records into groups," there might be the following steps: (1) removing records from incoming file tray, (2) aligning all records and placing in front of operator at center of desk, (3) picking up records using right and left hands alternately, (4) glancing quickly at each record, and (5) sorting records into three basic correspondence groups, i.e., customer account, sales promotion, and interoffice.

A job analysis is not simple to prepare. This is because an employee who has performed the duties of a position for a long period of time becomes so automatic in his performance that it is difficult

for him to remember and report to the analyst all of the jobs and operations and steps involved in his work. First drafts of job analyses usually have to be revised and refined several times before they are sufficiently detailed for use in job simplification and standard setting.

JOB ANALYSIS SHEET

Position.....

Major Task No..... Major Task Title.....

Operation No.....

Operation Title:

| List Any Special Knowledges Needed | Steps in Performing Operation (start each with a verb) |
|------------------------------------|---|
| | 1. 2. |

Figure 1

Work Simplification

After the job analysis has been prepared, it is necessary that it be studied in an effort to improve and simplify the procedures. Each step of each operation should be reviewed and these questions asked: Why is it done; why is it done there; why is it done then; why does this person do it; and why is it done in this way? After considering the steps in this manner, it is not unusual to discover operational details which are unnecessary and which can be eliminated. Where steps cannot be eliminated, they can often be altered, combined, or changed in their sequence in such a way as to streamline and facilitate performance of the procedure.

Methods analysts may prefer to use the process chart rather than the job analysis sheet as a basis for work simplification. In using the process chart, the steps followed in performing an operation are recorded on a charted form. A chart form is shown in Figure 2. The form provides space for a brief description of each step. Alongside each of the descriptions are standard symbols which,

when marked, classify each description into one of five basic activity patterns.

In using the chart, a large circle is used to show that an action or operation is taking place. An arrow is used to show transportation, as when something is moved from one place to another. A square is used to denote an inspection, as when something is checked or verified but not changed; a D denotes a delay; and a triangle is used to indicate storage, as when something remains in one place awaiting further action. The marked symbols as shown in the completed process chart provide a visual means of seeing how the work is presently being performed and serves as a basis for determining how steps might be combined, changed in sequence, or eliminated.

Measurement

Work standards presuppose an ability to measure the work. There are several reasons why we need measurement in office management. We need measurement to evaluate the over-all efficiency of the office itself. We need it to measure the efficiency of some particular department or feature. We need it to determine the efficiency of the individual office worker.

It is not sufficient to know that Betty Jones seems to keep busy all day. We should know how many letters are written and invoices posted, and then we need to know how many should have been written and posted. We also need measurement in order to plan and control the work by sections and departments.

A program of measurement goes hand in hand with a program of standards. One can have measurement without work standards, but one cannot have work standards without measurement. Measurement provides us data concerning the amount of work done. If the office manager does not know the amount of work done, he cannot readily compare it with the standard or the amount of work that should have been done. Without measurement he cannot know readily whether he is managing the office efficiently or whether he is employing more clerks than are actually required. Also, without measurement, the office manager has no objective method of judging between his better and his poorer employees.

In the preliminary analysis, the analyst and the supervisor will probably discover that the measurable work constitutes from two-thirds to three-fourths of all work done in the office. Effective meas-

urement of this major portion of the office work and the ultimate setting of work standards will mean definite progress and improvement in the operations of the office.

Invoices typed can be readily counted, as can bills, entries on cards, and envelope addressing. It is recognized that one invoice or card may have more entries than another and thus requires more time to complete. While there may be some invoices containing 20 to 30 items, these will probably have but a small effect on the average because of the far greater number of invoices bearing but one item.

Typewritten work is frequently measured in offices, and there are several methods of measurement; for example, the number of key strokes, the number of square inches, the number of standard-length lines, page count, cylinder count, and letter count. Key strokes are counted by a cyclometer which, when attached to the typewriter, counts the actual strokes as they are made by the typist. This is the most precise method of counting, since every stroke made by the operator is registered. The cyclometer is geared to show one figure for 10, 100, or 240 key strokes in order to simplify the computations.

Some supervisors have pointed out that a disadvantage of stroke counting as a unit of measurement is that the same number of strokes is recorded if the material being typed is simple or if it is complex. Further, it is mentioned that unprincipled typists can run up their stroke count by simply running the space bar.

To count by the number of typewritten lines, a scale can be used which is readily prepared by typing on a strip of cardboard the figures 1, 2, 3, 4 in a vertical line. By placing this scale on a sheet of typed matter, the number of lines can be read at a glance. While some lines will be longer than others, the office can determine the length of line to be used as a base.

There is also something to be said for the square-inch method. A square inch of single-spaced typing is equivalent to a six-inch line or 72 key strokes of elite type. To count the number of square inches, typewriter scales are available. By placing the upper left-hand corner of this transparent celluloid scale over the upper left-hand corner of the typewriting, the figure over the lower right-hand corner of the typed material is the number of square inches of typewritten matter.

Where considerable straight copy is run, the number of pages typed may be used. Where dictating cylinders are to be transcribed, the number of cylinders completed may be the unit of measurement, provided experience has shown the number of letters on each cylinder to be about the same.

Another form of measurement in typing is merely counting the number of letters typed — provided letters are uniform in length and difficulty. In measuring typewritten work, the slight variation in each of the methods described will make each of particular value for certain work situations. While precise measurement may be difficult at times, it is felt it is better to measure with some inaccuracy than not to measure at all.

Work Unit Measurement

Clerical production can be measured by the work unit method. A work unit, as used in this sense, means the amount of productive work produced in a given period of time at a normal pace. Through the use of this method, work of whatever kind can be measured by a single method of measurement. For example, it may be determined through analysis and study that for typists one unit of work means 200 lines typed, for file clerks one unit of work may mean 250 pieces filed, and for voucher clerks one unit of work may mean 50 vouchers checked. A variation of this method, as used in a Kansas City bank⁵ is described as follows:

In posting demand deposit ledgers, we have determined the posting of a debit (check) to be one unit, the posting of a credit (deposit) $3\frac{1}{2}$ units, and the operation of selecting the ledger sheet, picking up the old balance, clearing the balance, and removing the sheet from the machine to be 5 units. The use of these weights is essential to the equitable division of work among the various bookkeeping units as corporation accounts, for example, have different characteristics than personal accounts . . . studies must be made to determine the relative weight of the various duties performed by tellers if we are to equitably measure their performance. The time required to accept and receipt a deposit, for example, is several times that required for cashing a check.

Using this method, it is possible to establish as a uniform quota a fixed number of units per day for all positions, regardless of the kind of work being performed. However, the determination of the amount of work which shall constitute one work unit is a task which requires careful study.

Production Records

It is essential to a standards program that measured production be recorded. In most office situations, it is the employee who keeps the production record and turns it in daily or weekly to the supervisor. The production record is an important control technique in the office whether or not production standards are being used. The record not only provides management with information concerning worker productivity, but also serves as a stimulus to workers for better production. Where management is not sufficiently interested to ask for a record of productivity, personnel will probably not be interested in turning out their best performance.

Production records should be designed for easy, rapid, and accurate entry of data. Records to be filled in on the typewriter should be designed for typewriter spacing, and entries so near the bottom as to cause the paper to slip out of alignment should be avoided. Spaces provided for entries should be in logical sequence so as to facilitate recording of data.

3. SETTING WORK STANDARDS

Standards Techniques

Work standards can be set through (a) time and motion study, (b) subjective judgment, and (c) study of production records.

(a) Precisely engineered standards may be determined through time and motion study. In this technique, the duties of the position and the motions used in performing them must first be analyzed and simplified in accordance with prescribed work improvement principles. Then, using a stop watch, the job should be time studied in detail as performed by a worker considered to be of adequate ability. By accumulating the time readings for all elements of the job, allowing for fatigue and other delay factors, a rate is derived which becomes the standard for all workers performing the same operation under standard conditions.

(b) Subjective standards are in contrast to precisely engineered standards in that they are based only on the experience and opinion of supervisory personnel. They are often referred to as rule-of-thumb standards. Sometimes such standards, if they may be called that, are better than none at all. But even when a supervisor has made an accurate guess in setting such a standard, he has no basis on which to explain and justify his guess, and the general disagreement which may result may more than offset any values that the standard might have had.

(c) Production record standards are more flexible than engineered standards and are more objective than rule-of-thumb standards. They are based largely on the analysis of production records of satisfactory, adequate employees performing the tasks on which standards are to be set.

The Mean Used as a Work Quota

As stated earlier, the average productivity level of employees in an office should not be promulgated as a work standard, inasmuch as this average level may be considerably below or above the level of performance which is regarded as adequate and competent. However, some offices have used averages as a work goal for employees.

Average production is used as a work quota in one of the field offices of the Navy Department.⁶ In those divisions having homogeneous assignments, each employee lists daily the quantity of items processed and then at the end of the week computes the average time which was required to process each item. Reports for all employees are totaled and the average time required per item for the group is determined. Through this means, both employees and supervisors know whether the performance of an individual employee has been above or below average.

While it is reported by the Navy that this method corrected uneven distribution of work and increased general office efficiency, it appears that the results might have been even more satisfactory had actual work standards, based on careful analysis of work requirements, been established for all employees.

Standards in Basic Office Tasks

Because a majority of office clerical tasks fall within the categories of bookkeeping, records, and typewriting, these three areas will be used as the basis for examples relating to standard-setting procedures. While the job examples cited may have no specific reference to positions in some firms, it is believed that the techniques described will suggest ideas which will be of value in setting work standards for most office positions. It is emphasized that there is no single approach to the setting of office standards, and it may well be that by varying the methods described the requirements of specific work situations will be better met.

SETTING BOOKKEEPING STANDARDS

The procedure will be described by which time study might be used in setting a work standard for a uniform, repetitive office task. A clerical task frequently found in bookkeeping operations is that of posting debits. In banks, for example, machine operators have the job of posting incoming checks to and deducting them from customer account cards. The posting operations are largely uniform in character and the individual check serves as the unit of measurement.

To set a time-studied standard for this operation, a job analysis should first be conducted. The analysis will provide a written record of the operations and steps in the posting procedure. This analysis

should be sufficiently detailed to show the way in which incoming checks come to the operator, the location of check and account card racks, the manner of positioning the carriage, and the method used in inserting cards into the machine. The job analysis should then be studied carefully in an effort to simplify and improve the procedure.

One (or more) operator should then be selected to assist in the setting of the work standard and should be trained to perform the posting task using the work procedures which have been found to be most efficient. The selected operator should be a person who meets the supervisor's definition of a competent, adequately-trained employee — neither superior nor inferior. The employee should also be selected for her conscientiousness, in order to assure full cooperation with the standard-setting procedure.

The operator should then be given a stack of checks for posting and the supervisor or analyst, using a stop watch, should time the steps required to complete the posting operation. The time may be recorded alongside the separate steps in the operation as shown in the job analysis. The operator should be told to work at her usual rate and feel under no compulsion to go beyond that pace. The timing operation should be repeated several times, over a period of two or three days.

The completed study may show that by totaling the average or modal time required for each step, there is a time requirement of 15 seconds for each complete posting operation. In this example, a continuous working production of 240 units per hour is indicated. However, a fatigue and personal needs factor of approximately ten percent must be deducted and the work standard for the group may thus be established at 216 units per hour. It is emphasized that the work stations and environmental conditions of all employees subject to the standard should duplicate as closely as possible those which existed at the time the standard was set.

SETTING RECORDS STANDARDS

There will be some work situations where, because of a lack of uniformity in the work unit, *subjective standards* will have to be set. A common task in records work is the preparation of correspondence for filing. In legal firms, the time required to perform the steps in this task may vary markedly, since some papers will require considerably more cross-referencing than others and since

some units, because of the nature of their contents, may prove difficult to classify.

Where there is a considerable and continuing lack of uniformity in the difficulty of the work, as in this example, a work standard determined through time study or through review of production records would have reference value only. In a case such as this, the supervisor may decide, based on his experience and considered judgment, how long it should take to perform given tasks. These judgments may then be used as the work standard.

SETTING TYPEWRITING STANDARDS

A study of the *production records* of competent, satisfactory employees may provide tangible data for the setting of work standards. As typewriting is a basic clerical task and because of the considerable role which typists play in offices, work standards for typists can play an important part in improving office productivity. A common position in offices is that of the general typist who performs several different kinds of typing tasks, for example, (1) copying from longhand drafts, (2) copying from printed materials, and (3) transcribing from dictated cylinders. In cases such as this, a separate standard must be established for each kind of work.

A job analysis should first be conducted in order to determine the scope of work requirements. The recorded duties should be studied in an effort to simplify procedures. Attention should be given to the arrangement of the paper supply drawer, the manner of carbon manifolding, the technique used in inserting paper into the machine, the erasing and copy-holding methods, and the types of operational guides, if any, being used.

The approved work methods should then be explained and taught to all typists by the supervisor. After typists have become accustomed to the prescribed work methods, detailed records should be maintained of the production of each typist on each of the three kinds of typewriting required, as used in this example. To set work standards, only the production records of those employees meeting the supervisor's definition of satisfactory, adequate producers should be considered. The rates of productivity (recorded in typed lines, strokes, or pages) of these selected typists on each of the three different kinds of work may then be averaged and set as the hourly work standards for all employees.

Error Deductions

Although most work standards emphasize production and output, it is to be noted that increased quantity alone will not improve the level of office performance. It is important that the standards program include controls which will compensate for inaccuracies and errors. For example, an error in key punching may be considered equivalent to three cards produced. Thus, for each inaccuracy noted, three cards may be deducted from the employee's production total. Errors in posting, billing, and typewriting may be similarly compensated. However, where the same operator who made the error is required to correct the error, it may be feasible to make no adjustments in the production record on the grounds that total productivity will be automatically reduced by the time spent in making the corrections.

Work Incentives

No discussion of work standards would be complete without mention of employee incentive plans. All work requires an incentive, and incentives cover the entire range of human desires. Incentives may be financial or nonfinancial in character. Among the nonfinancial incentives in office work are these: interesting work; cheerful, congenial, and healthful surroundings; good treatment; and a company spirit manifested in various social activities of the employees. Then there are other nonfinancial incentives, such as the desire to excel and the desire to stand well in the opinion of the group within which one works.

Financial incentives may also prove a strong motivation for employees. However, increases in salary alone may not motivate employees to a higher productivity, as shown by the Roethlisberger studies at the Hawthorne plant of Western Electric.⁷ When an increase in salary is first granted, it may have a stimulating effect, but that effect tends to wear off as the recipient becomes accustomed to the salary. As has been noted by various writers, a well-paid employee will not necessarily continue to do better work for any length of time after his salary has been raised, if the job remains the same in all respects.

Through a bonus incentive plan, employee interest in greater productivity can be consistently encouraged. Such a plan is closely related to a work standards program. Under this method, employees

are usually paid at their regular monthly rate but are permitted to earn additional compensation for units produced beyond the established work standard. There should be no pressure on employees to produce beyond the standard which has been set. However, for those employees who want to put forth the extra effort to produce beyond standard or who because of unusual ability and training can readily produce beyond that level, the plan may provide considerable incentive.

National Work Standards

Unfortunately, work standards cannot be readily established on a nationwide basis for the wide variety of jobs found in business offices. Some efforts have been made by national associations to set standards on certain well-known kinds of work; however, these will prove of reference value only to supervisors and others engaged in the setting of standards. Some standard time allowances which have been found to exist in a composite of business firms, reported by Maze,⁸ may be of interest:

| KIND OF WORK | HOURLY |
|---|--------|
| Type addresses or labels (from typewritten copy) | 141 |
| Address envelopes by hand | 111 |
| Straight typing (keystroke count) | 13,786 |
| Typing ledger sheets | 111 |
| Sort bills of lading into Sortograph | 1,356 |
| File correspondence | 130 |
| Print and insert index cards | 242 |
| Tab addressograph plates | 678 |
| Emboss addressograph plates with name and address | 61 |
| Post accounts on bookkeeping machine | 242 |
| Feed envelopes through postal meter | 8,023 |

Some hourly standards assembled by a company that made a study of typewriting production in businesses throughout the country, as reported by Neuner and Haynes,⁹ are as follows:

| | |
|--|-----------|
| Copying from printed copy | 200 lines |
| Copying from fairly legible printed copy | 175 lines |
| Copying from stenographic notes | 125 lines |

Announcing Work Standards

Once standards have been determined for various positions in a firm, the manner of their announcement to the employees may contribute to the way in which the standards are accepted. Usually, a friendly verbal announcement by the supervisor, describing the standards which have been set and the procedures which went into their formulation, will be sufficient. The supervisor may outline such values to the employees as certain recognition of their production efforts, and equality in considering the merits of various employees for promotion. The supervisor, in announcing the standards, should also encourage employees to bring their comments concerning the standards and to make suggestions concerning work methods and procedures which it is felt can be improved.

Maintenance of the Standards Program

It is essential that the work standards program in an office be regularly reviewed.¹⁰ Standards should be formally re-evaluated at least once a year. However, any changes which occur in work requirements should serve as signals for immediate standards revisions. Rather than permit worker interest to lag because of an outmoded work standard, steps should be taken as quickly as possible to make the necessary revisions and re-establish the work standard as a fair and workable production guide.

Where employees are not meeting the standard, training and skill-development programs should be instituted. It is not enough to know that certain employees are sub-standard; steps should be taken to bring employees to at least a level of standard, satisfactory service.

In summary, it may be said that the work standard is one of the most important tools which management has for increasing clerical productivity. Through an analysis of work methods and procedures, through work simplification, and through the setting of specific standards of production, much can be accomplished to raise the levels of performance in our offices from mediocrity to competence.

REFERENCES

1. Bethel, L. L., *Industrial Organization and Management*, McGraw-Hill Book Co., New York, 1945.
2. Terry, George R., *Office Management and Control*, R. D. Irwin, Inc., Chicago, 1949.
3. Leffingwell, Wm., and Robinson, Edwin M., *Textbook of Office Management*, McGraw-Hill Book Co., New York, 1950.
4. Barnes, Ralph M., *Motion and Time Study*, John Wiley and Sons, New York, 1949.
5. Lyle, Edward F., "Control of Production and Accuracy in the Bank," *The Office*, February, 1950.
6. Semple, L. R., "Can Work Measurement Cut Office Costs?" *The Office*, March, 1950.
7. Roethlisberger, F. J., and Dickson, W. J., "Management and the Workers," Harvard University Press, Cambridge, Mass., 1940.
8. Maze, C. L., Editor, *Office Management*, Ronald Press, New York, 1947.
9. Neuner, John J. W., and Haynes, B. R., *Office Management and Practices*, Southwestern Publishing Company, 1947.
10. Wylie, Harry L., and Brecht, R. P., *Office Organization and Management*, Prentice-Hall, Inc., 1947.

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