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Micro Motion Study of Worker (Lap Former & Auto Corner)

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ABSTRACT

The primary intention of writing the research paper is to show the Micro motion study of worker(lap former & Auto corner).In this research I observed the two different task upto one hour. In these task I observed there too many activities happened continuously and so fastly. Workers did activities in few seconds. It found that there is too many movements happened in both activities, but I observed more movements happen in the lap former task rather than Auto corner. In lap former, worker goes in storage area and taken filled can and this activity happen in repeated way. I also observed that there is too many noise that effect the workers and cause fatigue and another types of problems such as eye irritation and hearing related problem(hearing impairment). In this, it found that operation and inspection and another activity happened with same time, because without inspection operation has not complete, these activities relates to each other. If one activity has to be missed than operation not completed. Worker also cleaned the floor and other little activity also happened by workers.

Introduction

Work study is a technique which is employed to ensure the best possible use of men, machine, materials and energy in carrying out a specific activity. It deals with the techniques of method study and work measurement.Micro motion study technique is best suited for those operations or activities which are of short duration and which are repeated hundreds of time. These are the operations or motions which require very small time and it is quite difficult to measure time for these motions accurately and the time required by these motions cannot be neglected due to repetitive operations.(Smriti Chand). Micro motion study is one of the most accurate techniques of work analysis used for work improvement. It makes use of motion pictures of the different activities or movement, so with the help of camera.

Motion study implies dividing the work into fundamental elements or basic operations of a job or a process with the object of eliminating unnecessary or defective elements in a job. After investigating all movements in a job, process or operation it finds out the most scientific and systematic method of performing the operation or completing the job.(Puspender pal). Motion means close observation of the movements of a workers body involved in performing a job and of a machine. Its objective is to eliminate the unproductive motions of both man and machine.

In contrast to, and motivated by, Taylor's time study methods, the Gilbreths proposed a technical language, allowing for the analysis of the labor process in a scientific context.The Gilbreths made use of scientific insights to develop a study method based upon the analysis of work motions', consisting in part of filming the details of a worker's 'activities and their body posture while recording the time. The films served two main purposes. One was the visual record of how work had been done, emphasizing areas for improvement. Secondly, the films also served the purpose of training workers about the best way to perform their work.This method allowed the Gilbreths to build on the best elements of these work flows and to create a standardized best practice.

Objectives

1. To find out the movement
2. To find out the distance covered in activity

Methodology

Locale of study: The research will be carried out in DCM(Delhi cloth & general mill) near mill gate in Hisar, Haryana .

Observation during worker doing activity: In this research I observed that two activity firstly, Lap former and second one Auto corner.
Activity I -Lap former:

Operation :

- Worker rolled the dipu stand for collecting sliver.
- Worker rolled sliver can
- jointed the sliver to another can
- carried filled can
- cleaned the floor
- Removed sliver from the machine
- Joined the sliver to another can
- Cleaned the floor
- Removed the sliver
- Putted filled can under the Ld2 machine

Inspection:

- Inspected the machine(5 times).

Transport:

- Took emptied can in another room
- carried filled can from another room
- worker putted can under the machine
- Took emptied can under the machine and transport to another room
- Placed the filled can another side of the machine
- Took emptied can in another room

Delay:

- Delayed in the work because sliver stuck in the machine
- Removed the sliver from the machine

Storage:

- Emptied can stored in another room(5 times)
- collected the sliver to another can& store in one can.
- Collected the sliver in one can

Activity II- Auto corner:

Operation :

- Cleaned of the machine to the pressure pipe
- Did cleaning of the trolly
- Did cleaned the 2nd trolly
- Did cleaned the 3rd trolly
- Cleaned the machine
- Putted the bobbin in the magazine
- Putted the bobbins in magazine again in the machine
- Removed filled cone & putting empty cone in the machine
- Putted the bobbin in the magazine
- Putted the cone on the auto corner machine

Inspection:

- inspected the machine(6 times)

Delay:

- work was delayed due to cleaning(3 times)
- work was delayed due to thread stuck in the machine(3 times)

storage:

- stored wasteful thread from the floor(2times)
- collected filled bobbin from other trolly(6 times)

Transport :

- collected wasted thread thread from the floor

Result

Activity-I lap former

Table 1

Thus, study was conducted, in this table I observed lap former activity. It found that No. of worker has 1 and age of worker 27 year. Worker has not no experience and training taken time upto one and half month. I observed that task for only hour started time of task 10:55am and chart end 11:55am.

Task	**Lap former**
No . of worker	1
Age of worker	27
Year of experience	No experience
Training taken	One and half month
Chart start(timing)	10:55am
Chart end(timing)	11:55am

Table 2
In table 2, it represent symbols about activities happened in the task such as operation, inspection, Transport, Delay, storage,Operation and inspection, change point, transport and inspection, operation and transportation.

Activity	**Symbol**
Operation	
Inspection	
Transport	
Delay	
Storage	
Operation and inspection	
Change point	
Transport and inspection	
Operation and transportation	

Flow chart
In this flow chart, it represented that which activities happened, these activities happened in continuous way and time also recorded when they did activity. In this, activities show with symbol. These activities happened in repeated way.

Activity **symbol** **Time**

- Collected the sliver in one can
- Took emptied can in another room
- Worker rolled the dipu stand for collecting sliver
- Delayed in the work because sliver stuck in the machine
- carried filled can from another room
- Worker rolled sliver can
- worker putted can under the machine
- Joined the sliver to another can
- Inspected the machine
- Placed the filled can another side of the machine
- Removed sliver from the machine
- Removed filled can
- Cleaned the floor
- Removed sliver
- Putted filled can under ld2 machine

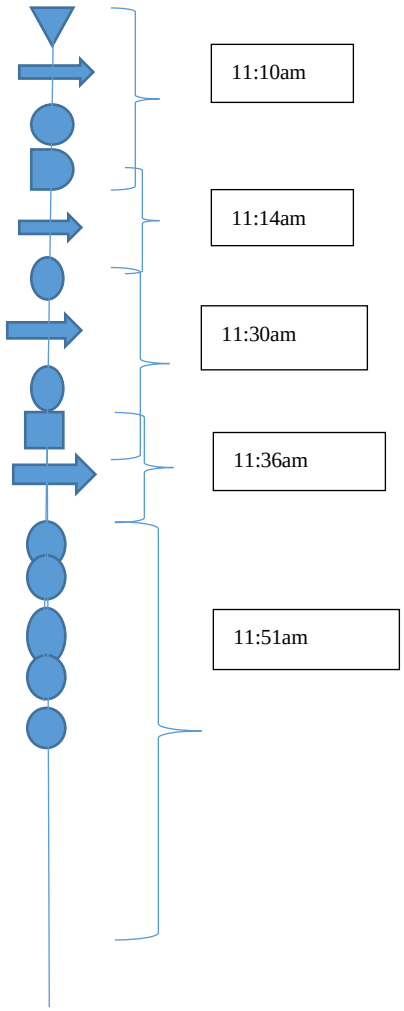

Table 3
It revealed that, this summary result of flow chart. It found that 11 no. of operation happened in this task, no. of inspection 2 , No. of storage 5, No. of delay 2, No. of transport 7 and total No. of distance moved by the worker has 1546(steps) and covers 1.17 km.

Summary sheet	
No. of operation	11
No. of inspection	2
No. of storage	5
No. of delay	2
No. of transport	7
Total distance moved	1546steps(1.17km)

Activity-II auto corner
Table 1
Thus, study was conducted, in this table I observed Auto corner Task. It found that No. of worker has 1 and age of worker 30year. Worker has 12year experience and training taken time 2 month. I observed that task for only hour started time of task 10:10am and chart end 11:00am.

Task	**Auto corner**
No . of worker	1
Age of worker	30
Year of experience	12 year
Training taken	2months
Chart start(timing)	10:10am
Chart end(timing)	11:00am

Flow chart:
In this flow chart, it represented that which activities happened, these activities happened in continuous way and time also recorded when they did activity. In this, activities show with symbol. These activities happened in repeated way.

Activity **Symbol** **Time**

- Cleaned of the machine to the pressure pipe
- work was delayed due to cleaning
- collected wasted thread thread from the floor
- Did cleaned trolly
- work was delayed
- inspected machine
- collected filled bobbin from other trolly
- worker putted cone on the auto corner
- removed filled cone from the machine

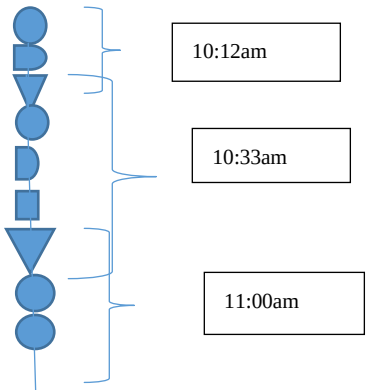

Table 2
It revealed that, this summary result of flow chart. It found that 21 operation happened in this task, no. of inspection 6, No. of storage 8, No. of delay 6, No. of transport 1and total No. of distance moved by the worker has 716(steps) and covers 0.54km.

Summary sheet	
No. of operation	21
No. of inspection	6
No. of storage	8
No. of delay	6
No. of transport	1
Total distance moved	716steps(0.54km)

Conclusion:

For lap former task,we visited DCM mill. I observed workers motion study upto 1hr. The worker has no experience. They trained upto one and half month.They are working so fastly.They covered 1546 Steps in one hour. worker is not having rest in between the activity she had continues movement. At one time the worker is doing so many work without any rest. They are moving filled cans from machine to storage area. She joint the sliver to the another can and collect waste sliver from the floor. she taking empty can in another room and carrying filled can from that room and put under the machine.

For Auto corner, we visited DCM mill. I observed workers motion study upto 1hr. The worker has 12 yr experience. They trained upto 2 months. They covered 716 steps. worker put the bobbin in the machine and removed filled cone from the machine and puts empty cone in the machine. Doing cleaning of the machine and trolly. worker put the bobbin from the another trolly. collect the waste thread from the floor and put in trolly. The work happeningcontinuously.

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