

## CONTRIBUTIONS REGARDING THE NEW OPERATOR'S TRAINING IMPROVEMENTS IN TEXTILE INDUSTRY

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### ABSTRACT

*The training of the new employees is one of the most important aspect of the production environment, so the objective of this work is to highlight the need and efficiency of a training program for new operators in the textile industry. The training program is of interest only if it is actually implemented and it is composed by two main phases: basic training and training on the operation. Program effectiveness was demonstrated by its implementation in practice for a period of one year in a company specific in textile industry. The results obtained from the training program demonstrated its effectiveness by confirming the need and working hypothesis according to which the new operator training program leads to increasing the percentage of qualified operators. For a clear understanding and interpretation of results we used a series of graphs. The originality of this work is provided by the objective, assumption and methodology chosen but also how to interpret and analyze the results obtained.*

**Keywords:** training program, operator's performance, training curves, evaluation performance.

### INTRODUCTION

In textile factories it is recommended not to place the new employed directly in the production line, ready to work without the requirements of production flow, so it is best for each factory made possible the existence of a cell line training to teach the new operators to perform the work at production level (Bruzzone et al, 2007) . Training new employees is one of the most important aspects of textile production environment, and performance of the production units is determined by performance of operators, which are largely provided by an available specialized training.

### GENERAL INFORMATIONS

The training program of operators has a direct and well defined impact on the overall success of the plant (Arunkumar and Mitalb, 2003). It is necessary to adaptate the training program to plant requirements (Timofte, 2009). In general, textile factories would be wise to follow the training program in four main objectives: learning new operators how to achieve quality production, operator skills to produce a satisfactory quality level, encourage each operator to work in team with other operators and providing information, instruction and assistance for new operators to feel comfortable in the new environment and evolve with the company. The training program is divided into two parts: basic training program and training program on operation. During the basic training program the student will learn basic skill needed almost at every sewing operation. The the basic training program includes: machine control, machine maintenance, the introduction of threads and basic sewing skills and handlings. The student's performances will be evaluated carefully to determine whether the student can become operator. Successful performances on certain exercises can help determine the operation for which student is most appropriate. Training program on operation begins when the student successfully met the basic training program and start working effectively in operation which has been assigned to her. Training program on operation continues until the student successfully complete training curve and becomes a qualified operator.

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## EXPERIMENTAL RESEARCHS

### Object Of Research

The main objective of the research presented in this study is to highlight the need and effectiveness of a training program for the new operators in the textile industry. The study was conducted in the Rosko Textil company that has as main activity the underwear for women and men production. Analyzing the statistical documents of the company could see that the new operator employed only 50% of them remained in the company becoming skilled operator so that it is necessary a change in training new operators. The main hypothesis of the research that constitute the base of study is as follows: „the new operator training program leads to increasing the percentage of qualified operators". The training program is of interest only if it is actually put into practice and should give up the habit natural reactions, resistance to change, new ideas, to criticism and lack of imagination as firmly believes that everyone uses or has already found best way to execute his work. The entire transformation process results from a compromise between what is profitable for the company and quality stakes. The operators involved in the study were informed about the study and is necessary to examine with them together the probably impact of attributes on their work solutions. The prediction of solutions impact in the moment of conception may be facilitated by an open experimentation that can lead to early stage: " what's the problem?" and may raise the question whether the initial problem solution generates or not problem in the work system (Doucouliagos, 1995).

### RESEARCH METHODOLOGY

New operators involved in the study covered the following training program:

#### *Basic Training*

- a. Orientation
- b. Machine presentation
- c. Exercises for the thread introduction
- d. Exercises on paper
- e. Sewing the pieces of material and handling exercises
- f. Evaluation and elimination of students (where applicable)

#### *Training on Operation*

- a. Detailed orientation
- b. Training on the machine designated
- c. Learning of method
- d. Quality instruction
- e. Training for rhythm
- f. Resistance training
- g. Procedure of performance evaluation
- h. Demands to definitivate the training
- i. Follow up

The trainer is responsible for keeping a file for each student. This file must include the student's progress chart and Schedule of Student exercises for each exercise. These records must be kept in a place where any person from management can easily find any information about students. Once a student successfully completed all the exercises, the trainer must pass to the final examination. This examination will consist of timing for each exercise and in a written test about the sewing machine orientation. Student's result of this examination will be noted in the personal file. If a student has great difficulties during the Basic Training, then she will probably encounter problems in trying to become an operator, so he should be eliminated from the training program before the training on the operation. Information about each student will be used to determine which operation is best suited for her. The main tools used in recording the performance used in training program are: Student Progress Chart-used in handling method learning and student progress chart for speeding, and training curve Figure 1. Student progress Chart includes all steps of the training program and it records the student progress

throughout the program. The training curve is a graph showing the expected increase in the level of production is considered to be normal for a student assigned to certain tasks. Training performance curves are displayed on a central panel factory somewhere. At the end of each working day students will report the achieved performances during the day to the instructor that he is in the front of the panel. The instructor will note each student's performance and he will encourage them.

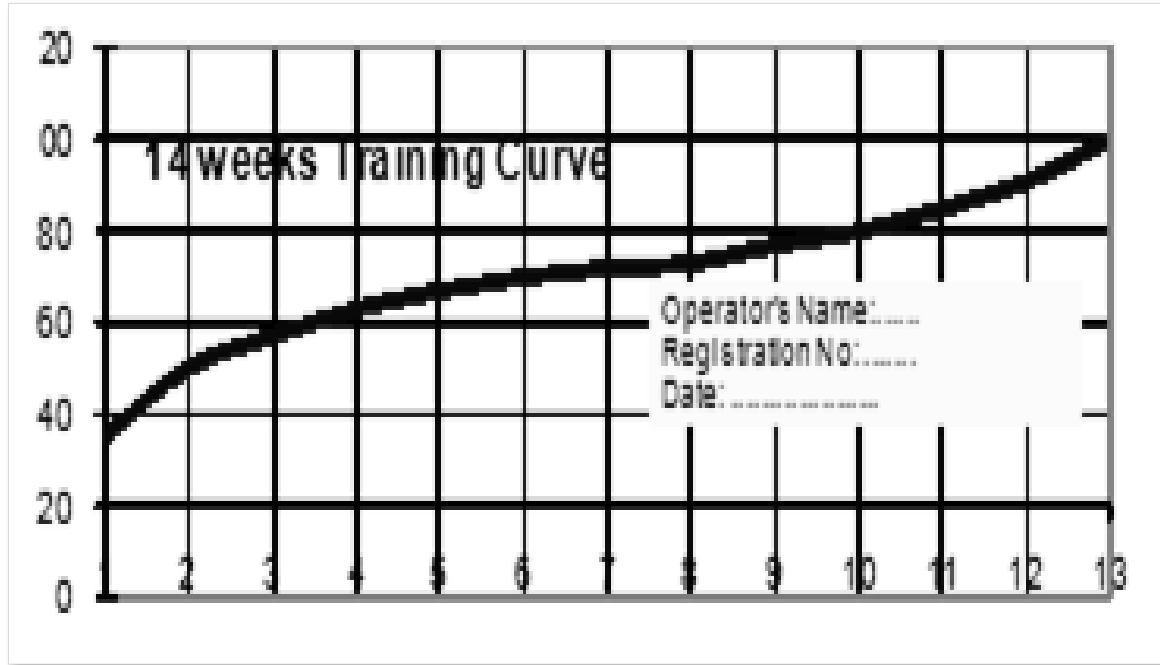


Figure 1: Training Curve

The training curve should be used as a guide in evaluation of student progress. The graphic representation of student performance should not be identical with the curve of training and we must not expect it. The important thing to be followed is if there is registered an increasing of student performance. If its performance does not improve, then the situation must be notified to the Training Leader. A continue lack of progress will determine disciplinary action including dismissal. A student is considered 100% productive operator and graduated training course when he managed to move to a production level of 100% during one week.

## RESULTS

The training program was applied in the factory over a period of 12 months and used a sample of 90 new operators hired during this year. The final goal of research is to determine the percentage of productive operators from the total of new hired operators. After crossing the basic training to new operators evaluation could be observed (Figure 2 and Figure 3) that in the first month were employed 7 new operators and 7 operators have passed basic training meaning 100% percents in the second month from 9 new employees one employee did not support an agreement as understanding difficulties, as in the second month there has been a graduated percentage of 89%. In the third month, fifth month, sixth month, ninth month, eleventh month the promovability of new hired operator's was 100%. The smaller promovability after the basic training ie 73% was in the tenth month because 3 of operators was eliminated. Reason for this percentage in the 10th month: one of operators presented a difficulty of understanding, one does not possess the necessary skills of a qualified operator and one dropped out from personal reasons. Analyzing the target group during the 12 months we can sustain that a rate of 90% of students has promoted the Basic Training.

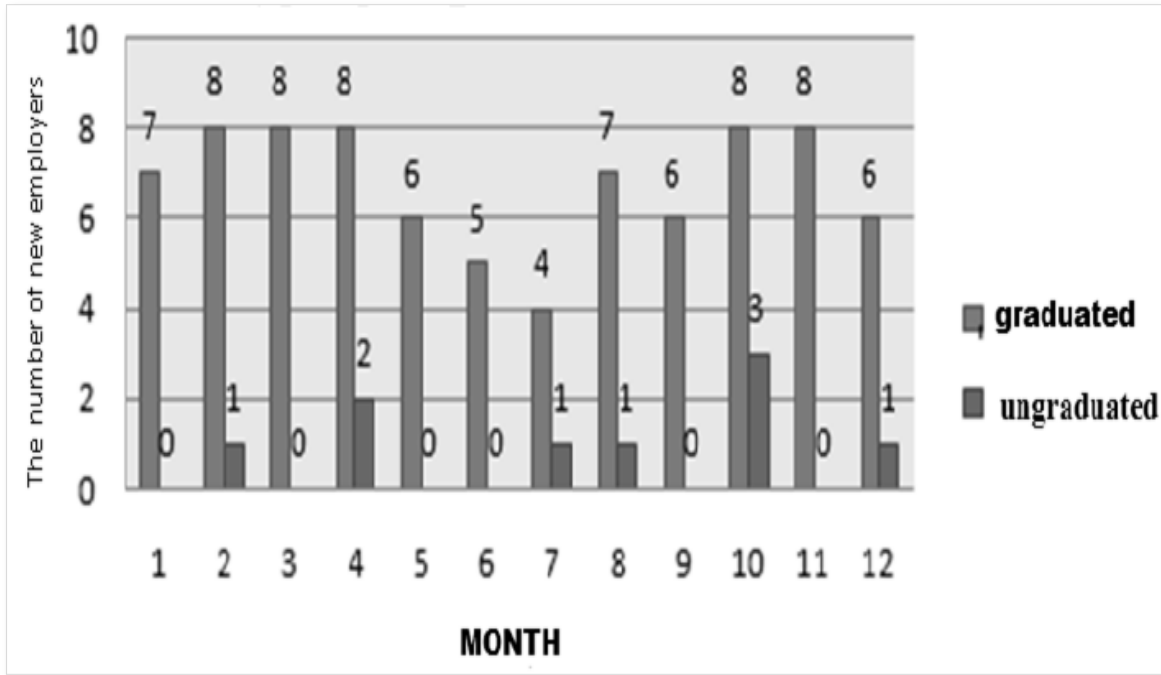


Figure 2. The number of new hired operators graduated after the Basic Training

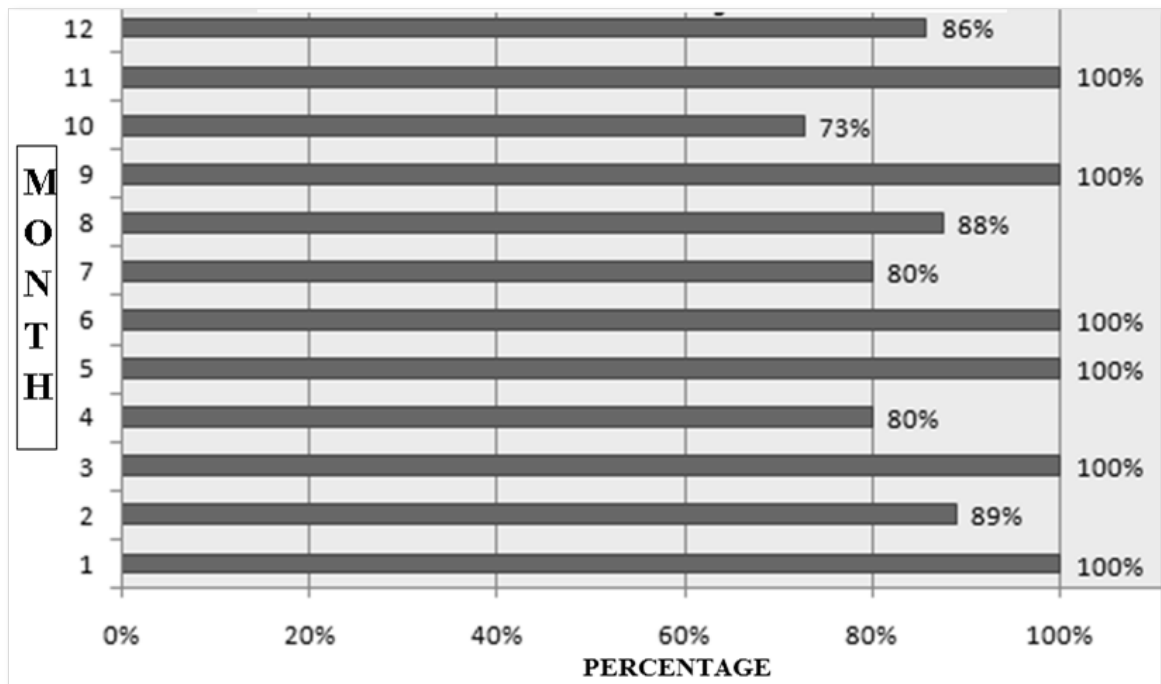
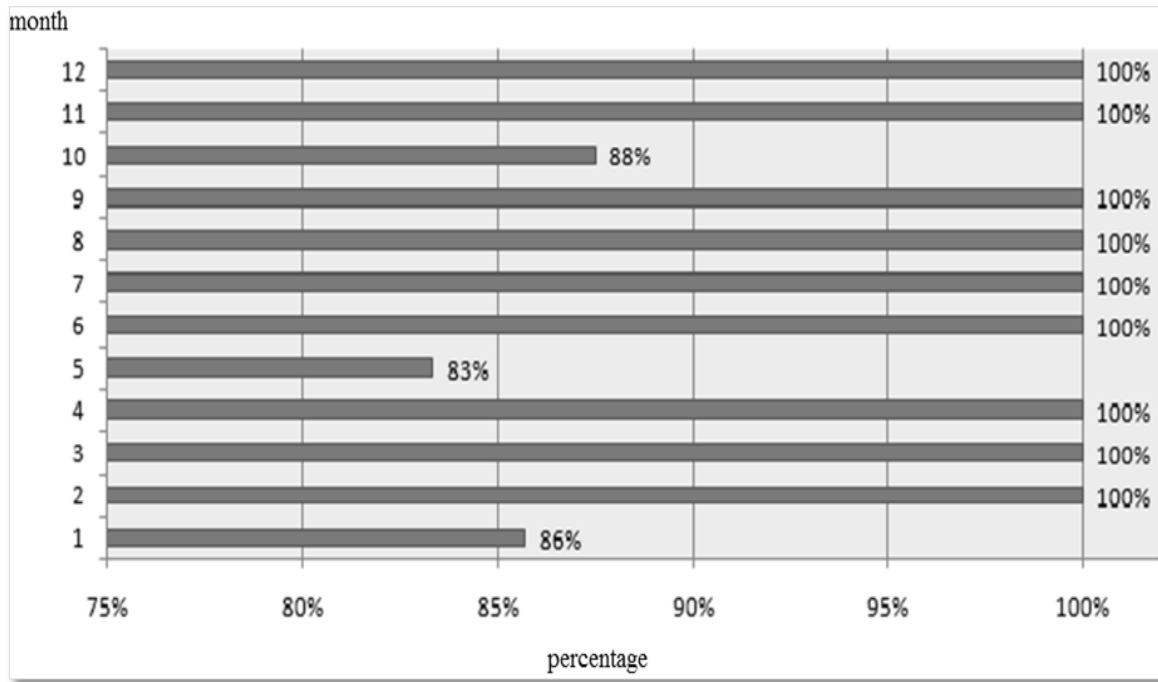


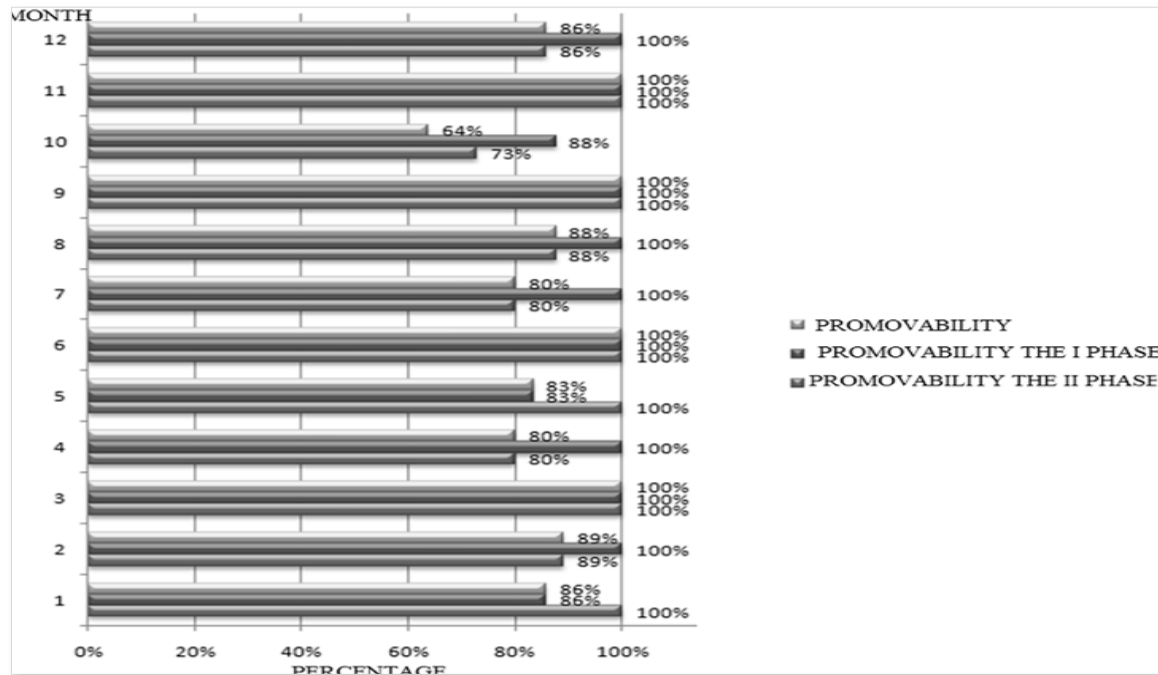
Figure 3. Monthly Basic Training promovability (percentage)

Regarding training on operations in the 12 months the promovability percentage 100% was achieved in 9 months fig.4. In the first month after the Basic Training the percentage was 86% because the second chance was given to an operator because it did not reach 100% efficiency for week probation. She passed the probation. In the fifth month the graduation percentage was lowest because one of the operators quit the factory. Also in the tenth month the maximum graduation was not touched because a second chance was given because of motivated absences and 25 hours actually worked was not completed per week. The operator has passed the test.



**Figure 4: Montly promovability percentage on Operation Training**

Analyzing the Figure 5 we can observe that after implementation and crossing the training program for a period of one year from 90 new hired operators 87% of them became qualified operators.



**Figure 5: Training Program promovability percentage**

The maximum promovability percentage was achieved in four months and the lowest percentage was 64%. The data obtained from practical implementation of the new operator training program demonstrated that it has led to increase the percentage of qualified operators in the company. Comparing the average percentage of qualified operators obtained in the last year with years before, an increase by about 25 percent, particularly if the company Rosko Textil, thus confirming the working hypothesis according to which „the new operator training program leading to increasing the percentage of qualified operators”.

## DISCUSSION

During this training period the new employee will enter in a new group of new employed operators and the main person she is subordinate is the head instructor. The head instructor is responsible for designating the training curve and handing a signed document to allow administrators to place the student on a curve in the pay system. Only one curve can be designated for a student at one time. The training curves are designed to pay a bonus of training as the difference between curve and efficiency of 100% for each week. The bonus will be the same every weekday throughout the week and results from the average weekday and it will decrease as the number of weeks increases. A student must be at least 25 hours actually worked per week for weeks on the curve to be completed. An operator is considered to have successfully completed the training curve when she succeeded to an efficiency of 100% on the actual time worked, with a minimum of 25 hours actually worked. When this condition is achieved, she is considered like a graduated operator and her status will be changed in experimented operator. Her norms will increase the level of normal operator. If a student has not achieved a weekly average of 100% by the end of the training curve, head instructors decide whether student has potential for good operator, and she will be considered in test period. A copy of the curve will be held at operator's sewing machine and another copy will be in the file of the instructor. It may be mentioned that not all students can complete the training curves or weekly achievements at 100% efficiency and performance levels are acceptable at least 80% of the required curve, any performance below this level is not acceptable. If a presence problem is detected, at any time during training, it should be treated very seriously by the group of instructors and if the problem is not resolved quickly and permanently and student can be dismissed.

## DIRECTIONS FOR FUTURE RESEARCHS

The new operator training program was designed in theory and implemented in a specific textile company. As research direction can be considered like comparative analysis of results from implementing the training program in two or more companies, showing the differences that may appear. Another research direction can be oriented to adaptation and implementation of training in a company with another activity domain.

## CONCLUSION

In terms of environment modernization of textile industry it is required to pay more attention for the training of the new employees. Textile enterprises should have a training cell to prepare performant operators prepared to achieve specific activities. The function of these cells must be based on a training program for the new operators. Effectiveness of such a training program was scientifically demonstrated by the results obtained and presented in this study.

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