
Department of Preparatory Training

Level: 1st Year

Module: Human Engineering

Module Leader : Arzazi Mohammed

Course 3 : Irrational Structure (Human Factor)

Course outline

Introduction

- 1- Elton Mayo's thinking foundations
- 2- Hawthorne experiences
- 3- California aircraft factory experience
- 4- Key principles and assumptions

Conclusion

Academic Year 2025-2026

Introduction

The human relations school emerged in the early 20th century as a reaction to the limitations of the scientific management approach. This school was born with the work of Elton Mayo and his colleagues begun at Western Electric Company of Hawthorne, near Chicago in the United States.

Mayo perfects Taylor's hypothesis that material and technical conditions (lighting, rest time,...) of work influence productivity by associating benefits for employees: acceptable wages, well studied hours,...

Without rejecting Taylorism, he seeks the conditions of the best efficiency and therefore deduces the importance of the psychological climate on the behavior of workers.

Elton Mayo will discover the importance of the human factor in the enterprise which will be considered as a social system.

1- Elton Mayo's thinking foundations

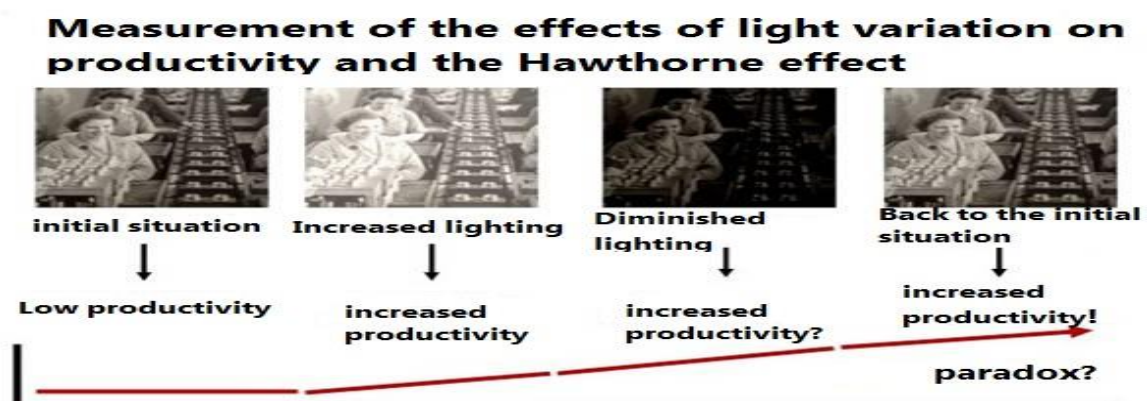
Elton Mayo American psychologist and sociologist is the founder of the human relations school. This school originated in the study of his famous investigation that he conducted for five years from 1927 - 1932 at the Western Electric Company factory in Hawthorne, a telephone manufacturing plant located near Chicago.

Mayo draws the conclusions of his investigation in two small books: The Human Problems of Industrial Civilization (1933), Social problems of industrial civilization (1947).

2- Hawthorne experiences

At the request of the Western Electric Company, which was interested in the consequences of environmental effects on worker production. Elton Mayo carried out with a team of researchers, from 1927 to 1932, a series of works within the workshops of «Hawthorne». Assuming that there is a link between productivity and material working conditions.

A- Lighting experience



B- Fatigue experience

The purpose of this experiment is to study the impact of fatigue on productivity. Elton Mayo studies the behaviour of a group of workers following different decisions (increase wages; allow a higher break time) except that he notes that productivity continues to increase even when we return to the initial state.

Conclusions are drawn from these experiences

The productivity of workers has been increased by:

- * Favourable social environment: good understanding, group cohesion.
- * Acceptance of the work by the group.
- * Good relations with management: the leadership style has an effect on the morale of the working group (democratic, participatory...).
- * Non-financial remuneration: valuing work, recognition, job satisfaction well done.

3- California Aircraft Factory Experience (1943)

Another study was conducted at the request of California aviation industry executives, who were concerned about absenteeism and turnover in their companies. It appeared that absentees or resigners were most often among those who were poorly integrated with their colleagues and among those who had bad relations with their hierarchy.

It seemed necessary for Mayo to understand an organization as a «social system» in which the motivations and feelings of the workers can only be understood from the totality of their relations with their superiors and the various groups.

4- Key principles and assumptions

- The importance of social interaction: Employees are not simply isolated individuals but are members of social groups.
- The role of motivation: Employees are motivated by a variety of factors beyond just economic rewards, including social recognition, a sense of belonging and opportunities for growth.
- The impact of leadership: Effective leadership is essential for creating a positive and productive work environment (democratic, participative...).
- The importance of communication: Open and honest communication between managers and employees is crucial for understanding and addressing employee needs.

Conclusion

The human relations school has been distinguished and characterized by their interest in the humanization of work, the sense of dealing with the worker as a human being who works within the group, within the framework of the institution or organization as a social system, as well as leadership interests and increase worker morale, it was linked for the first time between productivity and leadership methods and the main goal was to raise the level of productivity and achieve economic and psychological and social stability of the working class.