



*Research Paper*

## Dimensional analysis of increasing students' interest in work and technology courses from the perspective of students and teachers: A study of the grounded theory and Schatzman dimensional analysis

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### Abstract

**Aim:** We explored and analyzed the dimensions of enhancing students' interest in work and technology courses curriculum in junior high schools by dimensional analysis of the perceptions of students and teachers of vocational work and technology courses and based on the grounded theory and Schatzman dimensional analysis. Students were selected based on criterion, quota and convenience sampling methods. Thirty students of the seventh, eighth and ninth grades who were interested in attending the interview were selected by convenience and interviewed. Interviews were conducted based on quota sampling and selection of 10 students from each grade. Data were analyzed based on Schatzman's three-step method and the explanatory matrix tool. This analysis consists of three stages and as an organization plan, including a. dimensioning/design b. segregation; c. integration/reintegration. These steps are not linear and are provided only sequentially for ease of presentation. Schatzman proposed dimensional analysis in three steps using an explanatory matrix tool.

**Keywords:** *Increasing interest, Dimensional analysis, Work and technology courses, Theorize, Grounded theory, Schatzman dimensional analysis.*

## **Introduction**

Students' interest in learning is the most important factor for their academic progress. Educational experts are long expressed concern for enhancing students' interest in learning (Heuling, 2021; Tambunan et al., 2021; Guo et al., 2020; Kidman, 2018; Li, 2011; Thorndike, 1935; Quoted by Rowland, Knekta, Eddy & Corwin, 2019; Dewey, 1913).

Some studies indicate a decrease in both students' interest in studying and acquiring job skills. In this regard, work and technology courses curricula were developed to improve students' skills and as a vocational guidance for them (Mills et al., 2020; Rellensmann & Schukajlow, 2017). Review of literature on work and technology courses showed that no local studies have so far explored the basic dimensions in the formation and strengthening of interest with a qualitative approach. This research aims to identify the perspective, context, conditions, processes and consequences of students' increasing interest in work and technology courses in junior high school using the data theory method based on Schutzmann's dimension analysis approach. The questions we attempt to answer include "What are the dimensions associated with increasing students' interest in work and technology?" and "What context, conditions and process increase students' interest and what are its consequences?"

## **Methodology**

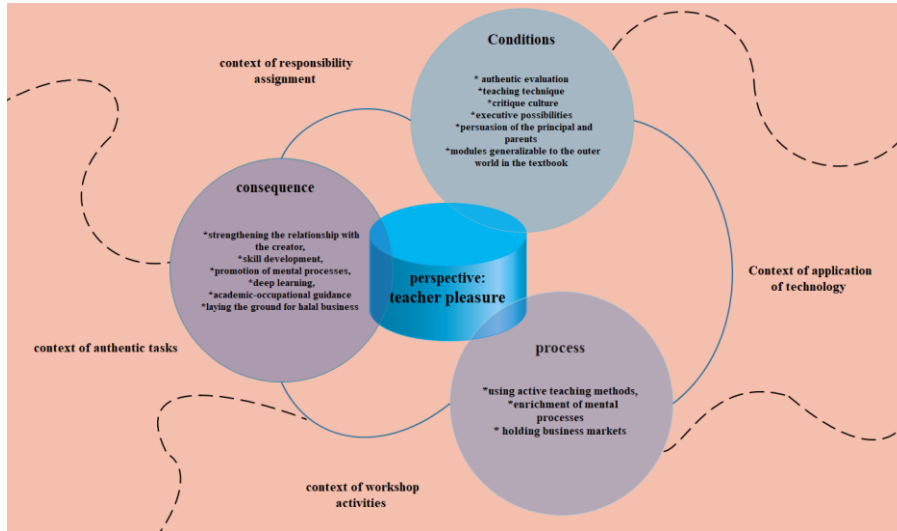
We used dimensional analysis to explore and analyze the dimensions of enhancing students' interest in work and technology courses in junior high schools in the perceptions of students and teachers based on the grounded theory and Schatzman dimensional analysis (Kools, McCarthy, Durham & Robert, 1996).

To validate the findings, specific methods of qualitative studies, such as participants' control of the findings, made by four interviewees (Ghafoori & Salehi, 2017), as well as the analytical multidimensionality were used. The explanatory matrix is an organized prototype that displays most of the intrinsic properties of the specified dimensions in the form of various conceptual components such as context, conditions, processes, and identified consequence. The main strength of this project is the development of analytical processes that enhance the process of comparability and comparison of data and concepts. Thirty students of the seventh, eighth and ninth grades who were interested in attending the interview were selected by convenience and interviewed. Interviews were conducted based on quota sampling and selection of 10 students from each grade.

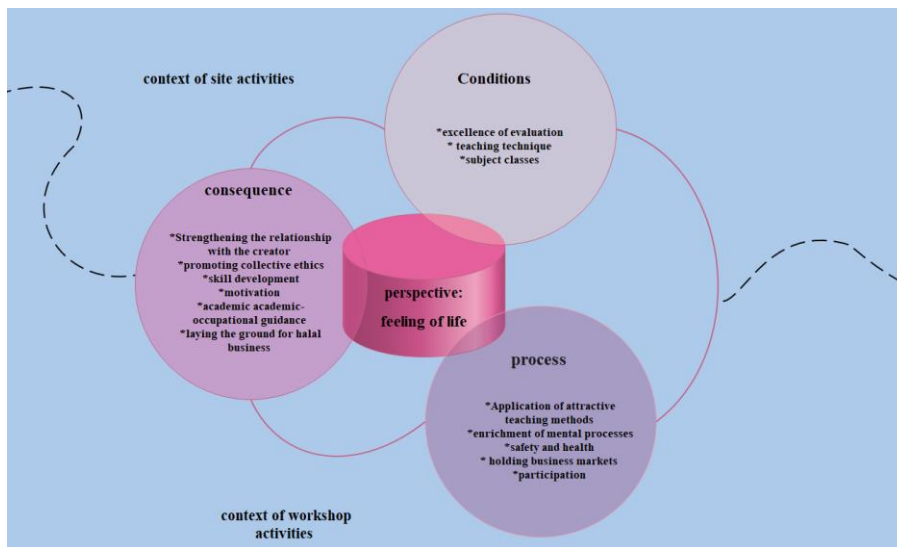
## Results

Findings indicate that courses are popular and effective for students although schools face challenges in terms of administrative facilities. Also, the reasons for enhancing students' interest in work and technology courses were identified and categorized in 17 dimensions among students and in 20 dimensions among teachers. The results are reported through an explanatory matrix and express the theory in the form of propositions and figures. The results showed that among the identified factors, teacher's pleasure and feeling the life were the most important factors in enhancing students' interest in work and technology courses. Among the teachers, dimensions such as the application of technology, workshop activities, responsibility assignment and authentic tasks were mentioned as the basic context. The dimensions of original evaluation, teaching technique, critique culture, executive possibilities, persuasion of the principal and parents, and modules generalizable to the outer world in the textbook were taken in the explanatory matrix in the conditions context. Also, the dimensions of using active teaching methods, enrichment of mental processes and holding business markets in the processes and dimensions of strengthening the relationship with the creator, skill development, promotion of mental processes, deep learning, academic-occupational guidance and facilitating halal earnings were taken in the consequence context. In the student group, dimensions such as "workshop and site activities" were taken in the basic context. The dimensions of "excellence of evaluation, teaching technique, and subject classes" were taken in the explanatory matrix in the conditions context. Dimensions of "attractive teaching methods, enrichment of mental processes, safety and health, holding business markets" were taken in the processes and dimensions of "strengthening the relationship with the creator, promoting collective ethics, skill development, motivation, academic academic-occupational guidance and facilitating halal earning and participation were taken in the consequence context. In the integration/reintegration phase, the following statement were formulated:

1. Feeling of pleasure happens consecutively; that is, a work and technology teacher who has felt the pleasure of teaching in participating in school dynamism, success in family growth, self-regulation and self-development and participation in community development is the main contributor for creating pleasures such as the "feeling of life" in students.



**Figure 1.** Explanatory matrix of work and technology teacher dimensions

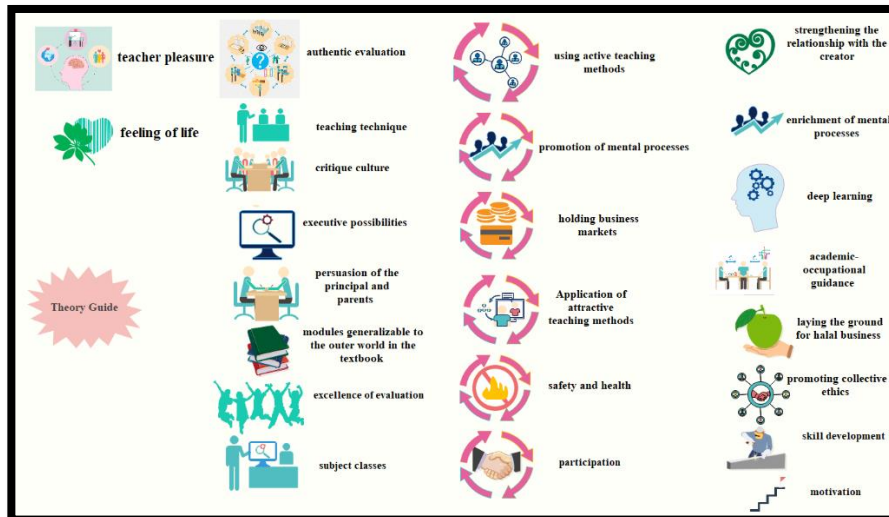


**Figure 2.** Explanatory matrix of student dimensions

## Discussion and conclusion

Practicing life begins in smaller settings as students practice life in school during work and technology courses in intra-team and inter-team





**Figure 4.** Theory Guide (Study Figure 3)

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