



The Effect of Need for Knowledge, Learning Self-Efficacy, and Collective Learning on Teachers' Satisfaction with Learning

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ABSTRACT

The aim of this study was to investigate the effect of need for knowledge, learning self-efficacy, and collective learning on physical education teachers' satisfaction with learning. The study was conducted using a survey research design. The entire population of physical education teachers in the primary and secondary schools of Golestan totaled 575 individuals. Based on Cochran's formula, the sample size was estimated to be 231 physical education teachers, selected through stratified random sampling. The data collection instruments included four questionnaires: Need for Knowledge (Kazan, 2016), Learning Self-Efficacy (Artino, 2012), Collective Learning (Glassman, 2014), and Satisfaction with Learning (Lin et al., 2018). The validity and reliability of the questionnaires were confirmed. The collected data were analyzed using SPSS and SMART PLS statistical software, both descriptively and inferentially. The research findings indicated that need for knowledge does not have a significant effect on physical education teachers' satisfaction with learning. Similarly, the results showed that learning self-efficacy does not have a significant effect on physical education teachers' satisfaction with learning. Finally, the results of the research revealed that collective learning has a positive and significant effect on physical education teachers' satisfaction with learning. Considering these results, it is recommended to highlight the importance of knowledge for physical education teachers and to increase their self-efficacy in learning.

Keywords: *Need for knowledge, Learning self-efficacy, Collective learning, Satisfaction with learning.*

1. Introduction

Teacher training and professional development is an endless and ongoing process that enhances the skills teachers need in the classroom to provide students with the most effective and highest standard of teaching possible (1). Professional development for teachers, which includes learning new techniques and methods, can increase their ability to interact with their work environment and meet the needs of their students (2). Since teachers are the core of the educational system and have a significant impact on

students' performance and progress, and competent teachers can guide students throughout their education, the development and growth of teachers are of special importance. To provide quality education for their students, teachers must develop their skills, master subject knowledge, and understand the various types of learners that may potentially be in a classroom. Moreover, classroom management is an integral part of teacher training and professional development as teachers who can manage the classroom effectively and efficiently will have students who show more interest and participation in

classes, and in turn, achieve better knowledge, grades, and outcomes from their subjects (3). Therefore, encouraging teachers to learn new subjects, skills, and capabilities is of special importance. Learning programs for teachers address challenges that teachers may face in the classroom and provide them with the necessary skills or training to overcome these challenges (4). Therefore, formulating both formal and informal learning programs for teachers that suit their needs as well as the desires of their students is essential. A significant part of the programs developed for teachers relates to types of learning (formal and informal) and the processes associated with them (5). Professional learning for teachers is a vital way to support the complex skills that students need to succeed in the 21st century. Newer forms of teaching are needed to develop student competencies such as deep mastery of challenging content, critical thinking, complex problem-solving, effective communication, and self-directed learning. Accordingly, effective professional development is essential to help teachers learn and modify teaching strategies required for these skills (6); however, various research findings emphasize that many professional development programs and initiatives in supporting changes in teaching practices and teacher learning seem ineffective (7).

Teachers need opportunities to learn how to teach students in ways different from traditional teaching methods and to provide an environment rich in various experiences for today's students (8). Additionally, through learning programs, teachers can quickly identify their weaknesses and timely improve them. Learning programs can also elevate teachers in terms of job capabilities to higher levels and ensure that having similar skills and knowledge among teachers, which is the basis for cooperation and participation, is guaranteed (9). On the other hand, the satisfaction and outcomes achieved by teachers, a significant part of which is visible in their teaching performance, are good indicators for assessing the quality and effectiveness of learning programs in school environments. It is important for school administrators to know whether their teachers are generally satisfied with their learning experiences (10). Because positive staff perceptions of learning processes can increase their participation in such programs and initiatives, it is necessary for administrators to be aware of the factors that affect this area (11). Factors such as using learning strategies, addressing learning problems, peer support, the ability to apply knowledge, and achieving learning outcomes are elements that can affect the overall

satisfaction of teachers with learning processes (12). Additionally, because enhancing the learning process with appropriate learning strategies may contribute to better results and performance, attention to the factors affecting this area is particularly important (13). Many researches attribute the factors affecting staff learning to organizational factors. El-Hajjar and Alkhanizi (2018) found in their research that the amount of knowledge exchange between staff, educational environment, facilities and materials, training programs, and presentation style of training programs play an important role in the effectiveness of training and learning programs (14). Chen (2017) also believes that individual factors such as knowledge, ability, the extent of need for knowledge and learning, self-efficacy in learning, and experiential learning can increase individuals' participation in learning (15). Despite the importance of individual and organizational factors affecting staff learning, the extent of their impact on staff satisfaction from undergoing learning courses or the actions taken by the organization for their learning has not been attended to.

Due to the importance of learning in educational environments for teachers, various and diverse programs are communicated every year by the Ministry of Education to the departments and ultimately schools to increase their teachers' learning. Many of these programs have been implemented in the past years in a repetitive manner with slight changes and are still being implemented without changes. An important point regarding these programs is that they often consider the requirements of schools, the education system, and students, but attention to the individual characteristics, interests, and desires of teachers is very limited. For the success of learning programs formulated for teachers, it is necessary to pay more attention to their personal factors. Teachers' entry into such programs should be based on their personal desire and will. As long as teachers are not aware of the necessity of learning and its importance in their career success, learning programs will not be very effective. Generally, it should be noted that involving teachers in learning programs should be done considering their intrinsic motivations (13). Also, teachers' learning should be aligned with increasing their self-efficacy. Teachers who experience higher self-efficacy in learning processes often commit themselves to it, seek more opportunities for learning, experience learning in multiple dimensions, and can be a stimulant for learning among their colleagues. On the other hand, the success of learning programs depends on how and the quality of their

implementation (3, 8). Many research findings indicate that collective learning is a successful model for collective staff development in any organization, and school environments known for features such as collaborative work can develop collective learning (16). Collective learning can increase teachers' participation in learning processes, facilitate the sharing of knowledge, information, and new ideas among teachers (16). Therefore, more attention should be paid to the mentioned issues in the learning programs formulated for teachers. Given the matters stated and the importance of the subject, the aim of this research is to study the effect of the need for knowledge, self-efficacy in learning, and collective learning on the satisfaction of physical education teachers with learning.

2. Methods and Materials

2.1. Study Design and Participants

The study was conducted using a survey research design. The population of the study consisted of all physical education teachers in the primary and secondary educational levels in Golestan in the year 2022, totaling 575 individuals. According to Cochran's formula, the sample size was determined to be 231 teachers, and stratified sampling method was used for selecting the participants. To collect data, four questionnaires were used, which are described as follows:

2.2. Measures

2.2.1. Need for Knowledge

In this study, the need for knowledge from the perspective of physical education teachers was assessed with an 8-question questionnaire by Cacioppo (2016), which has a 5-point rating scale. The reliability reported for this tool by Cacioppo (2016) is 0.86, indicating its suitable quality.

2.2.2. Learning Self-Efficacy

The assessment of the learning self-efficacy variable from the perspective of physical education teachers was conducted with a 5-question questionnaire by Artino

(2012), which has a 5-point rating scale. The reliability reported for this tool by Artino (2012) is 0.91, indicating its suitable quality (15).

2.2.3. Collective Learning

The assessment of the collective learning variable in this study from the perspective of physical education teachers was conducted with a 7-question tool introduced by Glassman (2014), which has a 5-point rating scale. The reliability reported for this tool by Glassman (2014) is 0.81, indicating its suitable quality (16).

2.2.4. Satisfaction with Learning

In this study, to measure the satisfaction with learning variable, a 5-question questionnaire by Lin et al. (2018) was used, which has a 5-point rating scale. The reliability reported for this tool by Lin et al. (2018) is 0.87, indicating its suitable quality (11).

2.3. Data Analysis

In this study, descriptive statistics were used to organize, summarize, and describe the data including frequencies, means, and standard deviations. For the test of the research model, structural equation modeling was used. To this end, SPSS version 25 and SmartPLS version 3 software were utilized.

3. Findings

This section first provides a summary of the descriptive results and then presents the inferential findings in the form of model fit indices and hypothesis testing. The demographic analysis of respondents showed that most of the sample has a master's degree (174 individuals). The majority of the gender distribution was male (122 individuals). Finally, the descriptive results showed that most respondents have a service history of between 11 to 20 years (117 individuals). As observed in Table 1, the mean scores for the variables of need for knowledge, learning self-efficacy, collective learning, and satisfaction with learning are respectively 3.54, 3.51, 3.42, and 3.41.

Table 1

Mean and Standard Deviation of Variable

Variable	Mean	Standard Deviation
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Need for Knowledge	3.54	0.73
Learning Self-Efficacy	3.51	0.79
Collective Learning	3.42	0.75
Satisfaction with Learning	3.41	0.76

In the inferential section, the triple criteria of Fornell and Larcker were considered for examining internal consistency or construct reliability. The examination of the factor loading of the observed variables as the first criterion showed that the factor loading and the t-values obtained for the observed variables are significant at the 0.01 level (Figure 1). The second criterion for examining construct reliability is the Dillon-Goldstein's rho or composite reliability (internal consistency index of the measurement

model), which should be greater than 0.7. The values obtained for this index also indicated acceptable reliability of the constructs (Table 2). The average variance extracted is the third criterion for examining internal stability of the constructs, presented in Table 2. Values higher than 0.5 for this criterion are considered acceptable. Based on the results in Table 2, the constructs and their indicators have acceptable reliability for use in the research.

Table 2

Fit model indices

Construct	Composite Reliability	Extracted Variance	Cronbach's Alpha
Need for Knowledge	0.905	0.544	0.881
Learning Self-Efficacy	0.872	0.579	0.818
Collective Learning	0.911	0.596	0.885
Satisfaction with Learning	0.903	0.655	0.863

The research results indicated that the need for knowledge does not have a significant effect on the satisfaction with learning of physical education teachers. Similarly, the effect of learning self-efficacy on the

satisfaction with learning of physical education teachers is not significant. Finally, the results showed that the effect of collective learning on satisfaction with learning of teachers is positive and significant (Table 3).

Figure 1

Final model with beta values

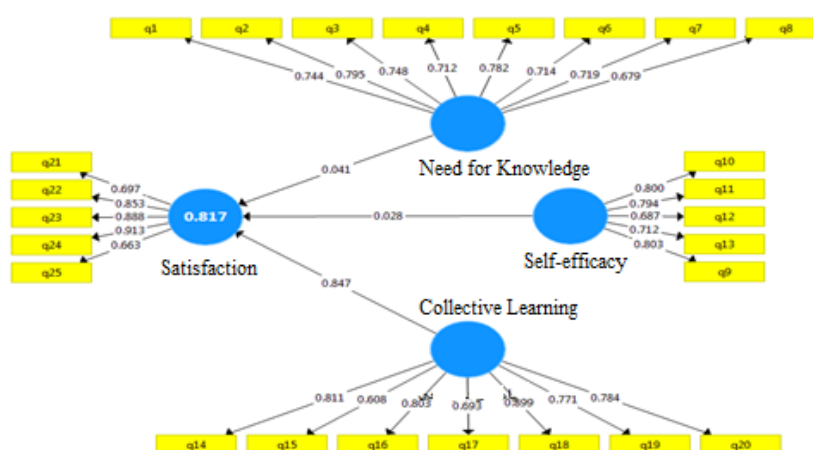


Table 3

Beta values and t-values for direct effects

Hypotheses	T-value	Beta Value	Hypothesis Outcome
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Effect of Need for Knowledge on Learning Satisfaction	0.659	0.041	Hypothesis Rejected
Effect of Learning Self-Efficacy on Learning Satisfaction	0.499	0.028	Hypothesis Rejected
Effect of Collective Learning on Learning Satisfaction	18.489	0.847	Hypothesis Accepted

4. Discussion

The main goal of this research was to study the effect of the need for knowledge, learning self-efficacy, and collective learning on the satisfaction with learning among physical education teachers. The research results showed that the need for knowledge does not have a significant effect on the satisfaction with learning of physical education teachers, which does not align with the findings of Cheng et al. (2021). The need for knowledge is a psychological construct related to an individual's tendency and enjoyment in seeking, evaluating, and assimilating various related informational sources to understand their surrounding environment (11). It indicates the extent to which individuals are chronically engaged in effortful cognitive activities to form a belief or prefer to shape an opinion based on different and objective aspects. Individuals with a high need for knowledge invest more cognitive resources in information processing, tend to reflect on relevant information while solving cognitive tasks, produce more cognitive responses related to tasks, and actively select and utilize task-related information. They also tend to seek and reflect on information for understanding stimuli and events, while individuals with a low need for knowledge may prefer other sources like explorations for understanding the world (6, 9, 16). Therefore, given this inclination towards seeking and enjoying effortful cognitive activities, it is generally expected that individuals with a higher need for knowledge have a more positive attitude towards situations requiring reasoning and problem-solving and show more fundamental responses to such situations. On the other hand, the need for knowledge is a frequent subject of research regarding employee learning.

The research findings indicated that learning self-efficacy does not have a significant effect on the satisfaction with learning of physical education teachers, which is inconsistent with the findings of Cheng et al. (2021). High self-efficacy denotes confidence in one's ability to exert control over one's motivations, behaviors, and environment, allowing individuals to advocate for their needs and supports (11). Research indicates that self-efficacy can enhance employee progress in their work, increase their emotional health and well-being, and serve as

a significant predictor for increased motivation and learning. Learning self-efficacy leads employees to initiate learning programs instead of being invited to them. Such employees are always seeking to learn new things under any circumstances, which can satisfy their curiosity or solve future work-related problems (10, 15). Since employees with high levels of learning self-efficacy initiate learning at an individual level, they are much more likely to be successful and satisfied with such processes.

The findings of the research showed that collective learning has a positive and significant effect on the satisfaction with learning of physical education teachers, aligning with the results of Cheng et al. (2021) (11). Collective or collaborative learning is an educational approach based on using groups to enhance learning by working together. Groups consisting of two or more learners work together to solve problems, complete tasks, or learn new concepts. This approach actively involves learners in processing and synthesizing information and concepts, as opposed to memorizing actual facts and figures (8, 9, 13). Learners work together on assigned projects and tasks, where they need to collaborate as a group to understand the concepts presented to them. In this method of learning, learners gain a fuller understanding as a group by defending their positions, reformulating ideas, listening to other perspectives, and expressing their own. In collaborative learning, each participant must take responsibility for their team's learning and success, but roles, resources, and organization are delegated to them (14-16). In this method of learning, managers have a supervisory role, and all learning activities from needs assessment to implementation and control are solely performed by the employees themselves. When individuals are tasked with working together to achieve a common goal, they are given the opportunity to develop higher-level skills. Also, when employees participate in collaborative learning, they develop a broad range of skills and knowledge. They not only reinforce their existing skills by teaching others but also learn new skills from other employees in turn. This reduces the need for formal training while encouraging employees to continuously be proficient in familiar concepts and engage with new ones (2, 3, 16). Furthermore, participating in such collaborative activities not only helps develop learning and skills of

employees but also meets their social needs like being with others and interacting with colleagues, leading to increased satisfaction from learning.

5. Conclusion

In conclusion, this study aimed to explore the effects of need for knowledge, learning self-efficacy, and collective learning on the satisfaction with learning among physical education teachers. The findings revealed that neither the need for knowledge nor learning self-efficacy significantly affected the teachers' satisfaction with their learning experiences. This contradicts some of the existing literature, suggesting a nuanced relationship in this specific educational context that may not align with broader educational or psychological trends. On the contrary, collective learning showed a positive and significant impact on learning satisfaction, which underscores the importance of collaborative and interactive learning environments in enhancing satisfaction levels.

The positive relationship between collective learning and satisfaction highlights the potential of group-based learning activities in fostering a more engaging and satisfying learning experience. This suggests that educational strategies focusing on collaboration and group dynamics can be beneficial in the realm of physical education and potentially beyond.

The study's findings advocate for a continued emphasis on developing and implementing collective learning opportunities in educational settings, especially those involving physical education. Encouraging group work, problem-solving, and interactive tasks could be instrumental in enhancing learning satisfaction, thereby potentially improving learning outcomes and teacher retention in this field.

However, this study is not without limitations. The specific focus on physical education teachers may limit the generalizability of the findings to other teaching disciplines or educational contexts. Furthermore, the cross-sectional nature of the research does not account for changes over time or the long-term impact of these constructs on satisfaction. Future research could address these limitations by incorporating a broader sample of educators, longitudinal designs, and considering additional variables that may influence satisfaction and learning outcomes. Understanding these dynamics can further contribute to the development of more effective and satisfying teaching and learning environments.

Based on the obtained results, the following recommendations are provided:

- Informing physical education teachers of the importance and necessity of learning in their career success.
- Developing a culture of learning in school environments to encourage and motivate physical education teachers to grow and develop their capabilities.
- Designing learning programs for physical education teachers that are aligned with their job-related and personal needs.
- Providing autonomy to physical education teachers in developing and implementing learning programs.
- Developing collective and collaborative learning in school environments by administrators.

Authors' Contributions

A. C.: Conceptualization, Methodology, Supervision, Writing. S. M. H.: Data collection, Data curation, Formal analysis and investigation, Writing.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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