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Teachers' Beliefs about the Usefulness and Feasibility of the TARGETS Dimensions

Abstract

TARGETS (Task, Authority, Recognition, Grouping, Evaluation, Time, and Social) is a set of instructional practices recommended for creating a motivating classroom climate based on achievement goal theory. However, our knowledge about teachers' views related to these practices is limited. The present survey study explores teachers' beliefs about the usefulness and feasibility of TARGETS practices as well as the relationships between their beliefs and some contextual factors. In general, teachers perceived TARGETS practices as useful and feasible; however significant differences were found in the means of TARGETS scales both for usefulness and for feasibility. In addition, each pair of corresponding usefulness and feasibility scales differed. Results showed that some beliefs are related to teachers' subjects and the age of students.

Keywords: achievement goal theory, teachers' beliefs, TARGETS dimensions

Objectives

Translating the results of research on learning motivation into classroom practice has not been without problems. One of the challenges seems to be the lack of knowledge about teachers' learning motivation beliefs (e.g., Kaplan et al., 2012; Turner, 2010). This study, on the one hand, looks at teachers' beliefs regarding the TARGETS instructional practices of achievement goal theory, and, on the other hand, explores the role of some background factors that may shape these beliefs.

Theoretical framework

TARGETS

In achievement goal theory, the motivational effect of the learning environment is usually characterized by goal structures. Ames (1992) used Epstein's (1983) conceptual framework to describe the teaching principles and strategies that may influence students' perceptions of goal structures. Six dimensions were established using the acronym TARGET (task, authority, recognition, grouping, evaluation, and time). The TARGET framework is considered as a coherent group of instructional practices representing a mastery goal structure (Patrick & Kaplan, 2022). Some goal theorists add a seventh—Social—dimension to TARGET(S) (e.g., Kaplan & Maehr, 2007; Patrick, 2004). The social features of mastery-structured classrooms are supportive, warm and caring interactions between the teacher and the students; open communication of the teacher; and encouraging peer interactions as well as mutual respect among students (Patrick & Kaplan, 2022).

Teachers' beliefs about learning motivation

Teachers' beliefs are defined as teachers' subjective assessments and judgments which play a crucial role in their thinking and behavior (Pajares, 1992). Teachers' beliefs are implicit assumptions related to education (Kagan, 1992) which impact teachers' practices as well as their decisions during the teaching-learning process (Smith, 2005).

Previous studies used substantially different approaches to explore teachers' learning motivation beliefs. One of the most common approaches is to look at the perceived usefulness of motivational strategies (Berger et al., 2018; Girardet & Berger, 2018; Mansfield & Volet, 2014). Some studies have found that the motivational strategies that are deemed useful are actually perceived as unfeasible by teachers (Reeve et al., 2014; Reeve & Cheon, 2016), which suggest that these two aspects, that is, usefulness and feasibility, should both be considered when exploring teachers' beliefs about learning motivation.

In addition, a number of contextual factors may influence teachers' beliefs about motivation as well as the motivational strategies they use in the classroom. For example, the variations in the motivational characteristics among students of different ages is well-established (Wigfield et al., 2015); however, this factor has not been examined in relation to teachers' beliefs about motivation. Moreover, despite the special attention paid to school subjects (e.g., Turner, 2010) or to the socioeconomic status of students (e.g., Hornstra et al., 2015), little focus has been put on these in research on teachers' beliefs.

Research questions

1. Is the questionnaire adapted, modified, and amended suitable for exploring teachers' beliefs regarding the usefulness and feasibility of the TARGETS dimensions?
2. How useful are the TARGETS dimensions according to teachers?
3. How feasible are the TARGETS dimensions according to teachers?
4. Is there a difference in the perception of the usefulness and feasibility of the TARGETS dimensions?
5. What is the impact of the following factors on teachers' beliefs concerning the usefulness and feasibility of the TARGETS dimensions: students' age and socioeconomic background, and the subjects teachers teach?

Methods

Participants

The sample comprised 434 teachers in Hungary serving diverse student populations. Hungary's public education system incorporates primary and secondary schools. The primary school, which has a junior (Grade 1-4) and a senior section (Grade 5-8), consists of eight grades. Secondary schools typically have four or five grades. Eighteen percent of the participants taught in the junior section of the primary school, 31% in the senior section, 25% of the participants taught in secondary schools, and 27% of the participants taught more than one student age groups simultaneously. Thirty-three percent of the teachers taught in schools where the ratio of students with low socioeconomic status (SES) was 0-5%, 23% taught in schools where the ratio was 6-10%, 16% taught in schools with low SES ratio of 11-20%, 16% taught in schools with a ratio of 21-40%, and 16% of the teachers taught in schools where the ratio of students with low SES was above 12%. The sample was heterogeneous with regard to the subjects teachers taught. Teachers are usually prepared to teach two school subjects during their teacher training in Hungary. With regard to the domains of school subjects, 32% of the participants taught humanities subjects (e.g., history); 8% taught humanities and arts/music/PE; 10% taught humanities and natural science subjects (e.g., chemistry); 14% taught humanities, arts/music/PE, and natural sciences; 6% taught natural sciences and arts/music/PE; 8% taught arts/music/PE; 21% of the participants taught only natural science subjects; and the missing data with regard to the subjects taught by teachers account for 1%.

Measures

This study adapted and modified the teacher version of Bardach et al.'s (2019) 31-item mastery goal structure questionnaire. The original instrument, which concerns teachers' own classroom practices, contains 31 Likert scale items to assess the six TARGET dimensions. In the present study, teachers were asked to choose one subject they taught, and decide how useful each statement was in relation to motivating students during the teaching process. After that, teachers were shown the same statements, except that usefulness was changed to feasibility. Two further scales were added to the Hungarian instrument to examine the social dimension of the classroom. In addition, the scales of classroom mutual respect (5 items, Ryan & Patrick, 2001) and teacher emotional support (4 items, Patrick et al., 2011) were modified. All items were translated into Hungarian using back-translation techniques. The 40-40 items were presented using a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). The questionnaire contained demographic background information as well.

Results

Factorial structure and reliability

Confirmatory factor analyses (CFA) indicated that the expected eight-factor models had unacceptable fit to the data both in case of usefulness and feasibility scales (Table 1). For modification, exploratory factor analyses (EFA) were performed on one randomly selected half of the sample (principal axis factor analysis with oblimin rotation). The selection of items for the final version of scales was based on convergent (high factor loadings on the relevant scale), and divergent (low factor loadings on the other scale) validity keeping in mind to use the same items in case of the usefulness and the feasibility scales. Due to the results of EFAs, 20 items were excluded in both parts of the instrument. The scales of group work and teacher emotional support were dropped out, while the scales of recognition and evaluation were merged. CFAs were performed on the other half of the sample. The modified models had good (usefulness scales) and acceptable (feasibility scales) fit to the data (Table 1). The final version of the questionnaire had five scales (task, authority, recognition/evaluation, time, classroom mutual respect) with 20 items relating to usefulness and 20 items relating to feasibility. Each scale had three or four items (for usefulness $\alpha = .60 - .78$; for feasibility $\alpha = .83 - .88$).

Usefulness of the TARGETS dimensions

As shown in Table 2, in general, teachers perceived the TARGETS practices as useful ($M = 3.93-4.79$). The single-factor repeated measures analysis of variance (ANOVA) indicated significant differences between the scales and significant main effects for usefulness [$F(4, 430) = 332.86, p < .001$; Wilks' $\lambda = .24$; partial $\eta^2 = .76$]. Regarding the descending order of the scales, pairwise comparisons revealed significant differences ($p < .001$) between all of them. Thus, recognition/evaluation had the highest mean, while classroom mutual respect had a significantly lower mean, which differed significantly from the average of authority; the mean for task was significantly lower, and time had the lowest average.

Feasibility of the TARGETS dimensions

Regarding feasibility, teachers rated the TARGETS practices high ($M = 3.60-4.53$, Table 2). However, there were significant differences between the means of the scales [$F(4, 430) = 318.09, p < .001$; Wilks' $\lambda = .25$; partial $\eta^2 = .75$]. Pairwise comparisons indicated that recognition/evaluation and classroom mutual respect had the highest means, which did not differ significantly from each other, but there were significant differences ($p < .001$) between the rest of the scales in their descending order. Thus, compared to these scales, authority had a

significantly lower mean, which differed significantly from task, and the lowest mean was for time.

Differences between the scales of usefulness and feasibility

Paired t-test was used to examine the differences between the scales of usefulness and feasibility. According to the results, there were significant differences between usefulness and feasibility for each scale, and the values of feasibility were lower than those of usefulness in all instances. The Cohen's d effect sizes were low for mutual respect and medium for the rest of the scales (Table 2).

Role of background factors

With regard to usefulness, significant differences were found among junior section, senior section, and secondary school teachers for two scales. The means for secondary school teachers were significantly higher than those of junior section teachers for recognition/evaluation [$F(2, 313) = 4.36, p = .014$] and mutual respect [$F(2, 313) = 4.97, p = .008$]. As for feasibility, no significant differences were identified.

We grouped teachers according to the ratio of students with low socioeconomic status; however, no differences were found neither for usefulness nor for feasibility in any dimensions between the groups.

In the subsamples of the school subjects of teachers, only the scale of time demonstrated significant differences both for usefulness [$F(6, 522) = 2.33, p = .032$] and for feasibility [$F(6, 522) = 2.34, p = .031$]. For usefulness, the means of teachers teaching humanities, science, and arts/music/PE subjects and teachers with humanities and arts/music/PE subjects were lower than the means of teachers teaching only arts/music/PE. As for feasibility, the means of teachers teaching science and arts/music/PE; teachers with humanities, science, and arts/music/PE subjects; and teachers with humanities and science subjects were lower than the means of teachers teaching only arts/music/PE.

Significance of the study

The results of the present research have theoretical, methodological, and practical implications. Regarding theory, our results point out that although in general, the teachers perceived the TARGETS practices as useful, there were differences in teachers' beliefs about the usefulness and feasibility of the TARGETS dimensions. A mastery-structured classroom requires the application of most of the TARGETS dimensions (Ames, 1992); however, these differences in teachers' beliefs may negatively impact the classroom implementation of goal theory results.

From a methodological point of view, our results indicate that it is beneficial to apply both the perspective of usefulness and that of feasibility and analyze their differences to explore teachers' beliefs about motivation. To the best of our knowledge, this approach, that is, looking at both usefulness and feasibility as well as their differences to examine teachers' beliefs about motivation has only been applied to examine teachers' motivational strategies exclusively in relation to support for autonomy (Reeve et al., 2014; Reeve & Cheon, 2016). Our findings suggest, however, that this approach is applicable for the TARGETS dimensions, too. Future qualitative studies may rely on the differences explored in this study to gain insight into the reasons behind the challenges of feasibility.

Regarding practical implications, teachers' beliefs about the usefulness and feasibility of the TARGETS dimensions, and their differences may help prepare teachers to motivate their students more effectively and increase the efficiency of goal theory-based interventions. Reeve & Cheon (2016) found empirical evidence that changing teachers' beliefs about implementation

can shape their motivational style in the classroom. This study has found empirical evidence that contextual factors may impact teachers' beliefs about the TARGETS framework.

As there is a significant overlap between the TARGETS framework and the recommended practice of the most prominent approaches to the study of motivation (Urdu & Turner, 2005), our results may be relevant in terms of other paradigms of motivation.

References

- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*(3), 261–271.
- Bardach, L., Yanagida, T., Schober, B., & Lüftenegger, M. (2019). Students' and teachers' perceptions of goal structures—Will they ever converge? Exploring changes in student-teacher agreement and reciprocal relations to self-concept and achievement. *Contemporary Educational Psychology, 59*, Article 101799.
- Berger, J. L., Girardet, C., Vaudroz, C., & Crahay, M. (2018). Teaching experience, teachers' beliefs, and self-reported classroom management practices: A coherent network. *SAGE Open, 8*(1).
- Epstein, J. L. (1983). Longitudinal effects of family-school-person interactions on student outcomes. In A. C. Kerckhoff (Ed.), *Research in sociology of education and socialization* (pp. 101–127). JAI.
- Girardet, C., & Berger, J. (2018). Factors influencing the evolution of vocational teachers' beliefs and practices related to classroom management during teacher education. *Australian Journal of Teacher Education, 43*(4), 138–158.
- Hornstra, L., Mansfield, C., van der Veen, I., Peetsma, T., & Volman, M. (2015). Motivational teacher strategies: The role of beliefs and contextual factors. *Learning Environments Research, 18*(3), 363–392.
- Kagan, D. M. (1992). Implications of research on teacher belief. *Educational Psychologist, 27*, 65–90.
- Kaplan, A., & Maehr, M. L. (2007). The contributions and prospects of goal orientation theory. *Educational Psychology Review, 19*(2), 141–184.
- Kaplan, A., Katz, I., & Flum, H. (2012). Motivation theory in educational practice: Knowledge claims, challenges, and future directions. In K. R. Harris, S. Graham, T. Urdu, S. Graham, J. M. Royer, & M. Zeidner (Eds.), *APA handbooks in psychology. APA educational psychology handbook, Vol. 2. Individual differences and cultural and contextual factors* (pp. 165–194). American Psychological Association.
- Mansfield, C.F., & Volet, S. E. (2014). Impact of structured group activities on pre-service teachers' beliefs about classroom motivation: an exploratory study. *Journal of Education for Teaching, 40*(2), 155–172.
- Muthén, L. K., & Muthén, B. O. (1998–2013). *Mplus user's guide (6th ed.)*. Author.
- Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307–332.
- Patrick, H. (2004). Re-examining classroom mastery goal structure. In P. R. Pintrich & M. L. Maehr (Eds.), *Advances in motivation: Vol. 13. Motivating students, improving schools: The legacy of Carol Midgley* (pp. 233–263). Elsevier JAI Press.

- Patrick, H., & Kaplan, A. (2022). Promoting students' growth motivation: Mastery-structured classrooms. In K-A. Allen, M. J. Furlong, D. Vella-Brodrick & S. Suldo (Eds.), *Handbook of Positive Psychology in Schools: Supporting Process and Practice* (pp. 295–308). Taylor and Francis.
- Patrick, H., Kaplan, A., & Ryan, A. M. (2011). Positive classroom motivational environments: Convergence between mastery goal structure and classroom social climate. *Journal of Educational Psychology, 103*(2), 367–382.
- Reeve, J., Vansteenkiste, M., Assor, A., Ahmad, I., Cheon, S. H., Jang, H., & Wang, C. K. J. (2014). The beliefs that underlie autonomy-supportive and controlling teaching: A multinational investigation. *Motivation and Emotion, 38*(1), 93–110.
- Reeve, J., & Cheon, S. H. (2016). Teachers become more autonomy supportive after they believe it is easy to do. *Psychology of Sport and Exercise, 22*, 178–189.
- Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal, 38*(2), 437–460.
- Smith, L. K. (2005). The impact of early life history on teachers' beliefs: in-school and out-of-school experiences as learners and knowers of science. *Teachers and Teaching, 11*(1), 5–36.
- Turner, J. C. (2010). Unfinished business: putting motivation theory to the “classroom test”. In T. Urdan & S.A. Karabenick (Eds.), *Advances in motivation and achievement: The decade ahead: Applications and contexts of motivation and achievement* (pp. 109–138). Emerald.
- Urduan, T., & Turner, J. C. (2005). Competence motivation in the classroom. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 297–317). Guilford Publications.
- Wigfield, A., Eccles, J. S., Fredricks, J. A., Simpkins, S., Roeser, R. W., & Schiefele, U. (2015). Development of achievement motivation and engagement. In M. E. Lamb & R. M. Lerner (Eds.), *Handbook of child psychology and developmental science: Socioemotional processes* (pp. 657–700). John Wiley & Sons, Inc.

Table 1 Goodness-of-fit indices for TARGETS scales

| Model | χ^2 | df | CFI | TLI | RMSEA (95% CI) |
|--|-----------|-----|------|------|------------------|
| Usefulness (8-dimension, full sample) | 1900.632* | 712 | .878 | .866 | .062 (.059–.065) |
| Feasibility (8-dimension, full sample) | 2649.924* | 712 | .907 | .898 | .079 (.076–.082) |
| Usefulness (5-dimension, half sample) | 315.221* | 160 | .968 | .962 | .047 (.040–.055) |
| Feasibility (5-dimension, half sample) | 642.357* | 160 | .924 | .918 | .074 (.071–.077) |

Note. CFI = comparative fit index; TLI = Tucker–Lewis Index; RMSEA = root-mean-square error of approximation. All items were treated as ordered categorical, utilizing the WLSMV estimator in Mplus (Muthén & Muthén, 1998-2013). * $p < 0.001$.

Table 2 Paired sample t test results for usefulness and feasibility scales of TARGETS

| Scales | Usefulness | | Feasibility | | Paired t test | | |
|--------------------------|------------|-----|-------------|-----|---------------|------------------|-----------|
| | M | SD | M | SD | t | Sig (two-tailed) | Cohen's d |
| Task | 4.28 | .56 | 3.83 | .68 | 15.40 | .00 | .74 |
| Authority | 4.56 | .49 | 4.11 | .69 | 15.15 | .00 | .73 |
| Recognition/evaluation | 4.79 | .30 | 4.53 | .49 | 12.59 | .00 | .60 |
| Time | 3.93 | .52 | 3.60 | .61 | 12.50 | .00 | .60 |
| Classroom mutual respect | 4.67 | .42 | 4.50 | .62 | 6.03 | .00 | .29 |

