

PECULIARITIES OF TEACHERS' MOTIVATION TO WORK CREATIVELY

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Abstract. The goal of the study was to evaluate which source of motivation predicts teachers' creativity. 250 teachers participated in the study. They filled out an anonymous questionnaire consisting of 29 items, which were divided into four scales. The variables measured were subjective creativity, goal internalization motivation, intrinsic process motivation and instrumental motivation. The validity of the scales was estimated using factor analysis. The reliability of the scales was estimated using the Cronbach alpha coefficient. The results of correlation and binary logistic regression analysis indicated that all three motivational sources are correlating with creativity ($p < 0.01$), but goal internalization motivation is the only source predicting teachers' creativity ($p < 0.01$). The teachers that are driven by goal internalization motivation are likely to work creatively.

JEL classification: Z10.

Keywords: teacher, subjective creativity, intrinsic process motivation, goal internalization motivation, instrumental motivation.

Raktažodžiai: mokytojas, subjektyvus kūrybiškumas, būdingų procesų motyvacija, instrumentinė motyvacija.

1. Introduction

Considering creativity as a very important subject in contemporary educational practice and research, there are many different studies describing teachers' creativity. Creativity in the domain of teaching is defined according to recommendations of the National Advisory Committee on Creative and Cultural Education (NACCCE, 1999) as *teaching creatively* and *teaching for creativity*. The scientists defined creativity as a teacher's ability to use students' imagination in the way that makes curriculum interesting and innovative (NACCCE, 1999). Teaching for creativity is defined as a tool to develop students' creative thinking abilities, imagination and other creativity related abilities that make teaching effective (NACCCE, 1999). Teaching creatively is interpreted as

usage of effective teaching tools, methods and strategies (Jeffrey and Craft, 2001, 2004). The teachers, who work creatively, usually use strategies of creativity development, so students' creative abilities and teachers' professional abilities are interrelated.

The results of the study analysing teachers' attitude towards creativity in the professional activity are controversial (Davies, 2006). Teachers indicated a positive attitude towards creativity and the belief that creativity is very important for effective teaching. On the other hand, teachers acknowledged that creativity is not a priority in comparison to such activities as knowledge acquisition, skills training, behavioural management, and motivation development. Creative strategies are not so popular because of the requirement for different educational environments, active students' role and different relationships between teachers and students (Davies, 2006).

Creative strategies require the teachers' ability to predict students' zone of proximal development to trust in the abilities of the students (Davies, 2006). These qualities make creative teaching more complex, requiring specific competences and self-awareness. Regardless of these peculiarities of creative teaching, some teachers choose to work creatively.

J. S. Horng et al. (2005) described five factors influencing creative teaching. They are "(a) personality traits: persistence, willingness to develop, acceptance of new experiences, self-confidence, sense of humour, curiosity, depth of ideas, imagination, etc.; (b) family factors: open and tolerant ways of teaching children, creative performance of parents, etc.; (c) experiences of growth and education: self-created games and stories, brainstorming among classmates, etc.; (d) beliefs in teaching, hard work, motivation and (e) the administrative side of school organization. Among these factors, beliefs in teaching, hard work and motivation are the main aspects" (Horng et al, 2005, p.352). These findings encouraged explorations of the role of motivation in the process of teaching creatively.

Motivation traditionally is defined as extrinsic or intrinsic (Gundry, 2007). T. Amabile (1996) validated the importance of intrinsic motivation for creativity. Other scientists (e. g. Woodman et al., 1993; Ford, 1996, 1999; Csikszentmihalyi, 1996; Nam Choi, 2004) also emphasized the importance of intrinsic motivation for creative initiatives in the work place. The scientists empirically proved that workers tend to be creative in the workplace when the work is interrelated with personal interests, when it is interesting and exciting. It is purposeful to use the concept of intrinsic process motivation to describe this condition. Intrinsic process motivation can be defined as the desire to work, because working gives him or her the possibility for self-realization. This kind of intrinsic motivation increases the desire to seek novelty, to experiment with advanced working strategies, to seek possibilities for professional development because this is the way for self-realization at work (Leonard, Beauvais and Scholl, 1999). Based on the literature cited the following hypothesis is offered:

H1a Subjective creativity is positively correlated with intrinsic process motivation.

H1b Intrinsic process motivation predicts teachers' subjective creativity.

Intrinsic process motivation is contrasted to instrumental/extrinsic motivation, which can be defined as the desire to work because of a tangible or intangible re-

ward. (Leonard, Beauvais and Scholl, 1999). T.M. Amabile (1996) identified the negative correlation between creativity and instrumental motivation. Working creatively requires different qualities in comparison with working effectively or productively. Instrumentally motivated workers are afraid to experiment with unusual ways of work and also save time which is necessary for creative work. Based on scientific literature, the following hypothesis is offered:

H2a Subjective creativity is negatively correlated with instrumental motivation.

Personal values, preferences and intrinsic goals can facilitate creativity if creativity is one of the personally important goals. If creativity is an important value for an individual he/she tends to work creatively. J. S. Horng et al. (2005) is one of the scientists who explored the role of creativity as an important personal value. They estimated that individuals who define creativity as virtue tend to work creatively. This kind of motivation is called goal internalization motivation (Leonard, Beauvais and Scholl, 1999). Based on the scientific literature, the following hypothesis is offered:

H3a Subjective creativity is positively correlated with goal internalization motivation

H3b Goal internalization motivation predicts teachers' subjective creativity.

According to the analysis of literature, motivation can be defined as the important factor affecting creativity in the workplace. Teachers' motivation for creativity is an under-researched topic in Lithuanian scientific literature. This topic is also very important, because it is one of the priorities in both European and Lithuanian education policy.

The goal of the study is to explore which source of motivation predicts teachers' creativity.

2. Methodology of Research

2.1. Methodological framework

Four theoretical concepts were used as methodological framework, i. e. personal creativity (Runco, 2007), intrinsic process motivation, goal internalization motivation and instrumental motivation (Leonard, Beauvais and Scholl, 1999).

M. Runco (2007) defined the concept of personal creativity as intentions to be creative, non-traditional ways of behaviour and the ability to interpret experience in original ways. Teachers' creativity can be defined by using the same criteria. Creatively working teachers emphasized their intentions to be creative in everyday work, they find non-traditional ways to present curriculum and interpret educational processes in non-typical ways (Lapėnienė, 2011).

There are four ways to define and measure creativity. The first one—divergent thinking tests (Torrance, 1974). The second one—consensual assessment technique (Amabile, 1982). The third one—supervisor evaluations (Oldham and Cummings, 1996; Tierney et al., 1999; George and Zhou, 2001). The last one—Self-evaluation questionnaires (Richards et al., 1988). The construct of personal creativity is subjective in its nature, so a self-evaluation questionnaire can be used for its measurement. The other

argument is that teachers' creativity can be defined as proactive creativity according to K. Unsworth (2001) classification. Proactive creativity can be evaluated best by using a self-evaluation questionnaire.

N.H. Leonard, L.L. Beauvais and R.W. Scholl (1999) proposed the theory of motivation sources. They proposed that there are five basic source of motivation: intrinsic process, extrinsic/instrumental rewards, external self-concept-based, internal self-concept-based and goal internalization motivation. The previous studies disclosed that intrinsic process motivation, instrumental motivation and goal internalization motivation are of primary importance for teachers' creativity (Lapėnienė, 2011) so the number of motivation sources was reduced to three during the study.

2.2. Sample of the study

Two hundred and fifty teachers participated in the study. All the teachers serve as high school teachers. According to the subject they teach, teachers were divided into five groups: language teachers, math and science teachers, art and technology teachers, social science teachers and physical education teachers. All subjects work in Kaunas city. Participating teachers account for 15% of Kaunas city's teacher population.

Participants were chosen using non random sampling procedures. Subjects were asked to participate in the study during seminar of professional development emphasizing principles of awareness and voluntary participation. 97% of the subjects returned questionnaires suitable for the statistical analysis.

2.3. Questionnaire of the study

The questionnaire was composed of four scales.

The first one – subjective creativity scale is composed of thirteen items. The items were developed by the first author. Details of the scale are introduced elsewhere (Lapėnienė, 2011). Items of the scale are presented in the first table.

The second one – goal internalization motivation is composed of nine items. The third one – instrumental motivation is composed of eight items. The fourth one – intrinsic process motivation is composed of two items. Details of the scales are introduced in the second table.

Each item of the questionnaire was evaluated using 5 Likert type scale.

Statistic analysis was made using SPSS 16.0 for Windows, according to recommendations of Brace et al., (2006) and Forshaw (2007).

3. Results of Research

Data was analyzed in two stages. During the first stage statistical procedures of factor analysis and reliability analysis was used. Validity and reliability estimates of the scales are a result of the first stage. During the second stage procedures of correlation

analysis and binary logistic regression analysis was used. Correlation between creativity and different motivational sources was estimated during the second stage.

3.1. Structure of the scales

The validity of teachers' creativity scale was checked using factor analysis. The data satisfies the requirements for the Factor analysis (KMO and Bartlett test sign < 0,01). Scale's reliability coefficient's (Chronbach alpha) value is 0.880. Items and their inter factorial correlations are presented in the 1st table.

Table 1. The results of factor analysis of subjective creativity scale

Items	Inter factorial correlation
To develop students' creativity is very important for me	0,77
While working creatively I can improve my teaching effectiveness	0,74
I am obligated to work creatively so I do this	0,73
It is easy for me to generate ideas	0,60
I allways try to do something new	0,58
I seek to be original while finding solutions	0,58
I concider different opinions while making decision	0,58
I like to offer novel perspective by evaluating old problems	0,58
It is easy for me to use creative abilities in problem solving process	0,58
I find it meaningful to work truly creatively	0,53

The validity of work motivation scales was checked using another Factor analysis. The data satisfies the requirements for the Factor analysis (KMO and Bartlett test sign < 0,01). Three factors were extracted during Factor analysis. Details of the analysis are presented in the 2nd table.

Table 2. The results of factor analysis of work motivation scales

Factor	Items	Inter factorial correlation
Goal internalization motivation	I feel obligation to work qualitatively	0,85
	I feel desire to work as good as I can	0,82
	I feel obligation continuously to improve my work	0,79
	I set myself standards of quality at work	0,74
	I work to be satisfied with my work results	0,72
	Professional competence is a value for me	0,65
	I work according to my moral virtues	0,63
	I feel satisfied working with students	0,59
	I am satisfied with my work	0,58

Factor	Items	Inter factorial correlation
<i>Cronbach alpha</i>		0,88
Instrumental motivation	I want to be an example to my colleagues	0,81
	I expect to be promoted because of my work quality	0,78
	I want to be one of the best teachers in our school	0,72
	It is important to me to be as good as my colleagues	0,71
	It is important to me to look competent between my colleagues	0,64
	Supervisor opinion is very important for me	0,62
	Desire to get higher qualification category motivates me to work qualitatively	0,58
	Desire to get higher salary motivates me to work qualitatively	0,44
<i>Cronbach alpha</i>		0,86
Intrinsic process motivation	Working process is more important to me than tangible reward	0,77
	Teachers' work is interesting to me	0,53
<i>Cronbach alpha</i>		0,62

Using the results of factor analysis three scales were composed and used in further analysis. Cronbach alpha coefficients of the scales confirm that the scales are suitable for the study. The results of these explorations became the basis for correlation and binary logistic regression analysis.

It was hypothesized that subjective creativity is positively correlated with intrinsic process motivation and goal internalization motivation and negatively correlated with instrumental motivation. The basis of these hypothesis were found in literature review.

3.2. Correlations between subjective creativity and work motivation

Using *Shapiro-Wilk* criterion was estimated that the data is distributed according to standards of normal distribution. Using Student t criterion was estimated that demographic variables (gender, age, subject) has no statistically significant influence on creativity or work motivation.

Using correlation analysis was estimated that creativity positively correlates with three analyzed sources of motivation. The details of the analysis are shown on the 3rd table.

Table 3. Correlation between creativity and motivation

	Intrinsic goal motivation	Instrumental motivation	Intrinsic process motivation
Pearson r	0,42	0,47	0,40
Statistical significance	p < 0.01	p < 0.01	p < 0.01
Number of subjects	240	239	244

All three motivational sources statistically significantly correlate with teachers' creativity. Correlations are positive but weak. Differences of the correlation strength are minor.

The data confirmed hypothesis H1a ("Subjective creativity is positively correlated with intrinsic process motivation") and H3a ("Subjective creativity is positively correlated with goal internalization motivation") but not H2a ("Subjective creativity is negatively correlated with instrumental motivation"). It was expected that instrumental motivation is negatively correlating with creativity, but the results are different. According to the results of correlation analysis, instrumental motivation is correlated with creativity in the same manner as goal internalization motivation and intrinsic process motivation. For further explorations of these relationships binary logistic regression was used.

3.3. Predictive relations between subjective creativity and motivation sources

The analysis showed that the data are suitable for binary logistic regression (Omnibus test significance $p < 0,001$, with 6 df). The model explains 66.5% of the data variance.

The results of binary logistic regression indicated that intrinsic goal motivation is the only source of motivation statistically significantly predicting subjective creativity. Hypothesis H3b ("Goal internalization motivation predicts' teachers' subjective creativity") was confirmed but hypothesis H1b ("Intrinsic process motivation predicts teachers' subjective creativity") was not confirmed. The details of the binary logistic regression analysis are presented in the 4th table.

Table 4. Basic results of binary logistic regression

	B	S.E.	Wald criterion	Statistical significance	Exp (B)
Goal internalization motivation	1,37	0,36	14,42	$p < 0,001$	3,96
Instrumental motivation	0,40	0,32	1,49	$p > 0,05$	1,49
Intrinsic process motivation	0,36	0,32	1,26	$p > 0,05$	1,44

The data disclosed the importance of goal internalization motivation. This source of motivation predicts subjective teachers' creativity. This means that teachers who are motivated by values and virtues tend to work creatively. Creativity is correlated with instrumental and intrinsic process motivation, but these sources of motivation do not predict creativity. It can be hypothesized that positive correlations were estimated, because creatively working teachers are motivated in various ways extrinsically and intrinsically.

4. Discussion

Motivation is described as one of the most important factors influencing teachers' creativity. Correlation design of the study does not allow checking the influence, but

correlations between variables, disclosing possibilities of influence. It can be hypothesized, that one variable can influence other variable if there are correlations between them. Correlation analysis disclosed that subjective creativity is correlated with three sources of motivation. It is possible, that creative teachers tend to be proactively motivated. They feel more motivation to work no matter it is intrinsic or extrinsic motivation. Binary logistic regression analysis disclosed the importance of goal internalization motivation. It is the only source, which predicts teachers' creativity. This data allows hypothesizing possible influence of goal internalization motivation for teachers' creativity in the domain of professional activity. This hypothesis should be tested in future studies.

The presented study has few minor limitations. The first of these limitations is concerned with sampling procedures. The sample of the study is non random sample. Because of this situation the data might be inaccurate and coverage error is possible. It is valuable to replicate the study in the future using the random sample of the subject. The second limitation is about the questionnaires. The scale of intrinsic process motivation is composed of two items. Cronbach alpha coefficient of the scale is 0,62. There are possible problems with data accuracy, because of this situation. When questionnaire is not so reliable as it could be measurement error is possible.

Nonetheless, these limitations, the data of the study can be considered as valuable and giving interesting and important information about relationships between teachers' creativity and work motivation.

5. Conclusion

The goal of the study was to evaluate which source of motivation predicts teachers' creativity. Three sources of motivation were chosen as important for creativity. The results of correlation analysis disclosed that more creative teachers are also more motivated, no matter intrinsically, or extrinsically. The results of binary logistic regression analysis disclosed, that goal internalization motivation is the only source of motivation which statistically significantly predicts teachers' creativity. It would be valuable to explore the influence of goal internalization motivation for teachers' creativity using experimental design of a study.

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PEDAGOGŲ MOTYVACIJOS KŪRYBINGUMUI PROFESINĖJE VEIKLOJE YPATUMAI

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Santrauka. Straipsnyje aptariama mokytojų kūrybingumo profesinės veiklos srityje samprata. Analizuojama motyvacijos šaltinio sąsajos su mokytojų kūrybingumu. Tyrimo metu apklausta 250 mokytojų. Mokytojai, anonimiškai pildė klausimyną, susidedantį iš 4 skalių. Buvo matuojami šie veiksniai: subjektyvus kūrybingumas, vidinio tikslo motyvacija, vidinė proceso motyvacija ir instrumentinė motyvacija. Skalės tinkamumas buvo patikrintas taikant faktoriinę analizę, patikimumas – Cronbacho alfa koeficientą. Atlikto tyrimo koreliacijos ir binarinės logistinės regresinės analizės rezultatai atskleidžia, jog visos trys motyvacijos rūšys koreliuoja su kūrybingumu ($p < 0.01$), bet vidinio tikslo motyvacija yra vienintelis motyvacijos šaltinis, prognozuojantis mokytojų kūrybingumą ($p < 0.01$). Mokytojų motyvacija siekti asmeniškai prasmingų tikslų gali būti apibūdinta kaip svarbiausias motyvacijos šaltinis kūrybingam darbui.

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Mokslo tyrimų sritys: kūrybingumo fenomenas, mokytojų kūrybingumui profesinėje veikloje įtakos turintys veiksniai, kūrybiškumo ugdymas mokymo procese – darnaus vystymosi įgyvendinimo veiksnys.

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