THE IMPACT OF SELF-DIRECTED LEARNING ON WORK PERFORMANCE OF LAWYERS

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Abstract. *Lawyers mostly work individually and unobserved by supervisors, therefore, their employers want to make sure they gain sufficient competence to perform well. There is little previous research on the direct relationship between self-directed learning and individual work performance. Therefore, the goal of the paper is to analyze* ***how self-directed learning influences individual work performance of lawyers in Lithuania.***

Our study is based on a quantitative research method, a self-reported questionnaire including 267 lawyers. The self-directed learning readiness (Guglielmino, adapted by Hashim, 2007) and individual task performance (Koopmans et al., 2012) scales were chosen. The correlation and regression analysis is performed to answer the question of the research.

The survey revealed that self-directed learning dimensions explain up to 32.5 % of variance in individual work performance expressed by task performance. Determination, initiative, confidence and reflection in learning have statistically significant influence on individual work performance of lawyers.

The paper is original as few if any previous studies analyze the relationship between self-directed learning and individual work performance of lawyers. Also, the topic is under-researched in the context of emerging economies.

Key words*: self-directed learning, task performance, lawyer, Lithuania*

Introduction

Professionals face particular job specifics which influence how they work, perform, learn and improve. The job of the lawyers is knowledge-intensive, competitive and highly individual in most cases. Formal studies are a prerequisite; however, learning does not end in formal environment. Lawyers are supposed to stay informed about the changes in the legal system and keep improving competence. As they tend to work mostly individually with limited supervision, their employers want to make sure lawyers perform well and are competent enough.

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Apart from formal education, the self-directed learning (SDL) is increasingly more recognized and valued by the supervisors (Smith, Sadler-Smith, Robertson & Wakefield, 2007). The previous research mostly focuses on SDL in formal education (e.g., Saeid & Eslaminejad, 2017), the prediction (Raemdonck, van der Leeden, Valcke, Segers & Thijssen, 2012) and promotion (Rana, Ardichvili & Polesello, 2016) of SDL at workplace. Pritchard (2010) emphasizes the significance of the learning-performance link. However, there is limited empirical evidence on the relationship between SDL and work performance, especially in the legal context. Moreover, the other contextual factors might also have impact. Guglielmino and Roberts (1992) notice the difference in evaluating SDL: the US respondents rate their SDL readiness higher than those from Hong Kong. It suggests that research findings might be different in emerging economies. Therefore, the aim of the paper is to determine **how self-directed learning influences individual work performance of lawyers in Lithuania.**

The paper consists of the following parts: it starts with the literature review on SDL in the workplace, individual work performance and their relationship, which leads to the research hypothesis. The research method, the instrument and the sample are described in the second part. The findings and the discussion with the previous studies are presented in the third part, followed by the conclusions, limitations and implications.

1. Literature review

1.1. Self-directed learning analysis

Self-directed learning (SDL) is a complex process by which individuals take the initiative, with or without the assistance of others, in diagnosing their learning needs and formulating learning goals, identifing human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (Hashim, 2007). SDL concept emerges from the notion of lifelong learning. Lifelong learning consists of formal, non-formal education and informal learning (Eurostat, 2001). Eurostat (2001) explains each term. Formal education is typically provided by education or training institutions. It is structured in terms of learning objectives, duration, content, method and assessment and leads to certification. Non-formal education is purposive but voluntary learning that takes place in a diverse range of environments and situations, e.g., dance lessons, community based sports programs or work-based workshops. Informal learning happens every day, it is less-organized, less structured, might not have institutional setting and teacher-learner relationships (Alonderienė, 2010). For example, it is learning by watching, learning from own experience, learning by reading books, scientific journals, watching videos, podcasts, and many more.

Learning methods might be defined in terms of conscious or incidental. Incidental learning is a byproduct of some other activity, such as task accomplishment, interpersonal interaction, sensing the organizational culture, trial-and-error experimentation, or even formal learning (Marsick & Watkins, 2001). Incidental learning occurs unin-

tentionally and might not be recognized by the learner. Therefore, it is hardly possible to foster and manage incidental learning. The opposite of an incidental learning is a conscious one. SDL is a part of a conscious learning.

There are a few conceptual models of SDL. According to Garrison (1997), motivation, self-monitoring (responsibility) and self-management (control) are the dimensions of SDL. Williamson (2007) proposes analyzing SDL by a Self-Rating Scale of Self-Directed Learning, which consists of awareness, learning strategies, learning activities, evaluation and interpersonal skills. However, the SDL framework developed by Guglielmino (1978) is used most often. Guglielmino (1978) suggests applying a self-directed learning readiness scale (SDLRS) to measure SDL. Initially the scale was developed to test the SDL of students; later it was adapted and used in workplace settings (e.g., Hashim, 2007). The SDLRS consists of determination, independence, openness, clarity, reflection, confidence, readiness and initiative dimensions.

Benefits of SDL. SDL is beneficial on individual and organizational levels. Individuals are responsible for their competence acquisition in SDL: they identify the competences needed, engage in learning activities when needed and choose the appropriate learning methods. Therefore, individuals are more competitive in the labor market (Hashim, 2008).

Studies have shown that individuals practicing SDL are more likely to share information with others for selfless reasons (Beitler & Mitlacher, 2007). This in turn increases organizational knowledge sharing and leads to a learning organization (Rana et al., 2016) and improved organizational learning (James-Gordon & Bal, 2003).

Factors of SDL. SDL has been proved to be significant at workplace. The next question is how SDL might be encouraged and enhanced. As Alonderienė (2010) notes, learning is influenced by individual factors, organizational environment and learning methods. The following *individual factors* affect SDL positively: motivation, self-awareness process, goal setting and goal attainment process, previous learning and education experiences and belief in their ability (Robotham, 1995), career stage (Cunningham & Hillier, 2013).

There are a few *organizational factors* proved to encourage SDL. The role of leadership is crucial. For instance, learning leaders encourage and facilitate SDL by developing learning culture, creating required structures, policies and practices and instilling significance of SDL in general (Smith et al., 2007). The particular organizational culture which allows employees to make mistakes helps as well. Employees identify the ability to learn from mistakes as one of the most important learning aspects (Gerber, Lankshear, Larsson, & Svensson, 1995).

Some other organizational environment factors include learning hygiene. Sometimes it is enough to provide time for learning, increase security (Stansfield, 1997), reduce noise and distractions (Increasing worker learning…, 2010). On the contrary, Palethorpe and Wilson (2011) found challenging situations to encourage deep and lasting learning.

SDL is also positively influenced by availability of *learning methods and tools* (James-Gordon & Bal, 2003). Online platforms are a useful learning and knowledge sharing tool, especially for a geographically dispersed company. However, despite the obvious cost saving and other benefits of online learning, e-learning adoption rates remain quite low and require additional expenditures from the corporations in terms of training, technical support and managerial encouragement (Sawang, Newton, & Jamieson, 2013). With development of Web 2.0 technologies a lot of new opportunities have opened up for self-directed learners (Karakas & Manisaligil, 2012), e.g., forums, specialized websites, massive online learning courses such as www.coursera.org and others.

1.2. Individual work performance analysis

Employee performance is one of the most analyzed topics in the corporate world. Individual work performance is usually seen as a relevant outcome measure in the occupational setting (Koopmans, Barnaards, Hildebrandt, Buuren, Beek & Vet, 2012). Koopmans, Bernaards, Hildebrandt, Schaufeli, Vet and Beek (2011) analyze a significant number of studies on individual work performance and identify the most commonly mentioned dimensions:

- Task performance explains how well an individual accomplishes his/her job-related assignments. It might be synonymously substituted by proficiency, competence, and work quantity and quality terms.
- Contextual performance covers other than formal work tasks, e.g., going an extra mile, showing initiative, etc.
- Counterproductive work behavior is negative behavior which harms the organization or its employees, e.g., theft, absenteeism, substance abuse, etc.
- Adaptive performance means being flexible and open minded, being able to adjust plans and goals, learn new things.

Factors of individual work performance. There are several factors predicting work performance. Some factors are related to the job itself. Tims, Bakker, Derks and van Rhenen (2013) notice the indirect positive relationship between job crafting and individual work performance. The influence of work-related attitudes is described in Salminen, Vanhala and Heilmann (2017), who state that job satisfaction and organizational commitment positively influence perceived work performance at all levels, including an individual level as well.

Organizational environment also matters: Suliman and Harethi (2013) claim that organizational climate significantly positively affects individual work performance. It has been proven that fun at work is positively and indirectly related to individual work performance (task and creative performance dimensions), according to Fluegge-Woolf (2014). Workplace bullying, on the other hand, affects the individual work performance negatively (Gunawardena & Galahitiyawa 2016).

Knowledge sharing propensity influences knowledge sharing behavior which, in turn, leads to improved individual work performance, according to the study of Hent-

tonen, Kianto and Ritala (2016). Similar impact of knowledge sharing on work performance is found in the study of Kang, Kim and Chang (2008).

1.3. Self-directed learning influence on individual work performance

Even though both SDL and individual work performance are quite well researched in general, there is little research conducted on their relationship. The previous research covers similar terms, or provides insights on indirect relationship between SDL and individual work performance. For instance, Henttonen et al. (2016) prove a positive influence of knowledge sharing on individual work performance. Loo and Thorpe (2002) demonstrate the influence of reflective learning journals on individual and group performance improvement.

There is more research conducted at an organizational level. The influence of organizational learning on organizational performance is proved by Tippins and Sohi (2003), García-Morales, Jiménez-Barrionuevo and Gutiérrez-Gutiérrez (2012). Ho (2008) has investigated the impact of SDL on organizational performance. Her research has indicated the positive impact of SDL on organizational performance, which becomes stronger if mediated by organizational learning and knowledge management capability variables. Another study of Ho (2011) shows how SDL influences organizational performance through organizational innovation. The direct relationship between SDL and performance was not investigated. Tseng (2013) proposes a theoretical model proving the relationship between SDL, entrepreneurial learning and entrepreneurial performance.

The learning–performance link is proved to exist at an organizational level. This paper raises the question whether the same link is found at an individual level as well. The ideas closest to our investigation are raised by Pritchard (2010), who strongly believes that individual learning journeys lead to improved performance. His ideas, however, come from a practical field and are not based on research. Keeping the previous surveys and assumptions in mind the research hypothesis is raised:

H: Self-directed learning positively influences individual work performance.

The context of lawyers in Lithuanian companies brings some peculiarities to the research. Even though a lot of previous research on SDL focuses on white collar employees (individuals with higher education, earning more than the average and working as highly trained specialists), lawyers as a group is still under-researched. Lawyers require not only specific formal degree education but also constant upgrade of skills and knowledge as the legal requirements and laws change continually. Besides, lawyers tend to be rather individualistic: specializing in specific legal area, often being paid by individual outcomes, usually their supervisors have no opportunities to observe their performance directly. Therefore, companies are concerned about the performance and competence of their lawyers.

This research addresses the research gap in terms of the region as well. The majority of the surveys on SDL are conducted in Asia (e.g., Hashim, 2007; Tseng, 2013) or Americas (e.g., Fleming, Artis & Hawes, 2014). Besides, they usually address the issues of the formal education sector. The learning in business sector in Lithuania is covered in some surveys in terms of a learning organization (Žalys, Janulienė & Žalienė, 2005), the relationship between organizational learning and innovation (Janiūnaitė & Petraitė, 2012), informal learning and job satisfaction (Alonderienė, 2010), informal learning and innovativeness (Alonderienė & Pundzienė, 2009). Bartkevičienė and Žydžiūnaitė (2013) analyze the links between SDL of immigrants in community organizations. We could not find any surveys analyzing the impact of SDL on individual work performance in Lithuania.

2. Methodology

2.1. Research Design and Sample

To determine how SDL influences individual work-performance of lawyers, the quantitative research method is chosen using an online self-report questionnaire. The convenience and snowball sampling methods are used in this research. It is hard to determine the exact number of the lawyers working in Lithuanian companies and law firms as there is no official database. One private consulting institution has granted access to its database of lawyers for academic research purposes only. The link to the on-line questionnaire was sent as a personalized e-mail to the lawyers and to the affiliated law firms with the request to distribute it among their employees. The system has recorded 514 attempts to complete the questionnaire. Some of the questionnaires were removed from the further research as incomplete, corrupted, or respondents did not have legal background. As a result, 267 suitable questionnaires are analyzed further in this paper.

2.2. Instrumentation design

The questionnaire is designed to represent the main parts of the research model (Figure 1), namely SDL and individual work performance. SDL is typically measured by the self-directed learning readiness scale developed by Guglielmino (1978), adopted by Hashim (2007). It consists of eight dimensions (Figure 2): determination, independence, openness, clarity, reflection, confidence, readiness and initiative (Hashim, 2007).

The individual work performance construct consists of four dimensions: task performance, contextual performance, counterproductive work behavior, adaptive performance (Koopmans et al., 2012). Only task performance (TP) dimension is chosen in this research. Lawyers mostly work individually with little direct supervision of their superiors. They are evaluated and paid for their work result. Therefore the TP dimension is the most relevant in this context.

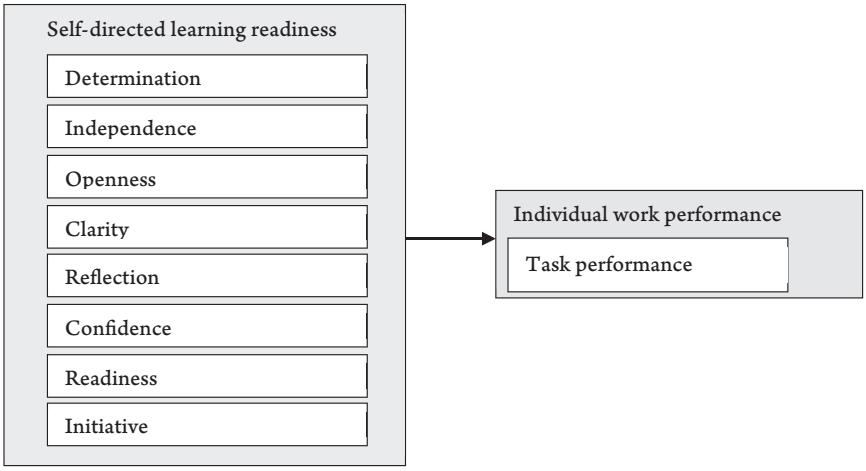

FIGURE 1. **Research model**

Source: authors, according to Guglielmino (1978), adapted by Hashim (2007); Koopmans et al. (2012).

A five-point Likert scale was used in SDLRS and TP statements. A few demographic questions were also included. The first question filters the respondents to keep the lawyers only. Internal consistency of majority scales is over 0.7, except for readiness scale (0.66). However, it is used in further data analysis as a poor but not unacceptable value (Nunally, 1978).

3. Results and discussion

The descriptive statistics of all the scales is presented in Table 1. Both TP (4.17 out of 5) and SDLRS (3.84 out of 5) dimensions are generally evaluated rather high by the lawyers. Readiness is the highest evaluated scale (4.21), while Independence is the lowest evaluated one (3.52).

TABLE 1. **Means and standard deviations of research variables**

Scale	Mean	SD
SDLRS	3.84	0.87
Determination	4.03	0.62
Independence	3.52	0.80
Openness	4.13	0.67
Clarity	3.94	0.80
Reflection	4.05	0.73
Confidence	4.12	0.67
Readiness	4.21	0.66
Initiative	3.91	0.73
TP	4.17	0.60

Spearman's correlation analysis reveals that TP variable correlates with SDLRS and each of its dimensions (Table 2). The highest correlations are observed between TP and determination, initiative and confidence. Due to inter-correlation of SDLR dimensions, multicollinearity analysis is performed. However, no multicollinearity issues have been found, as the highest VIF value is less than 3.

TABLE 2. **Correlation between variables**

	Variable	1	2	3	4	5	6	7	8	9
1	SDLRS									
2	Determination	0.781**								
3	Independence	0.395**	0.232**							
4	Openness	0.766**	0.577**	0.241**						
5	Clarity	0.770**	0.522**	0.141*	0.614**					
6	Reflection	0.793**	0.580**	0.081	0.574**	0.708**				
7	Confidence	0.769**	0.525**	0.150*	0.474**	0.514**	0.635**			
8	Readiness	0.728**	0.581**	0.183**	0.456**	0.447**	0.525**	0.638**		
9	Initiative	0.746**	0.606**	0.133*	0.526**	0.464**	0.527**	0.615**	0.624**	
10	Task Performance	0.407**	0.427**	0.156*	0.320**	0.174**	0.215**	0.373**	0.350**	0.411**

*Note: **p-value 0.01, *p-value 0.05*

Regression analysis uncovers how TP is affected by SDLRS. The simple linear regression shows that the model is suitable: SDLRS explains 25 % of the variance in TP. The hypothesis "H: Self-directed learning positively influences individual work performance" *is supported*. The multiple regression is performed using a 'stepwise' method. It indicates that two SDLRS dimensions, determination and initiative, are the most suitable to predict TP (Adjusted R^2=0.3). Adding other SDLRS dimensions increases the value of Adjusted R^2 slightly – up to 0.32, with determination, initiative, confidence and reflection predicting TP. Even though TP has positive statistically significant correlation with all the dimensions of SDLRS, just the mentioned ones actually affect TP.

The research findings enhance the understanding of learning–performance link at an individual level. The link has been already determined at an organizational level (Tippins & Sohi, 2003; García-Morales et al., 2012). It was assumed but not empirically tested by Pritchard (2010) at an individual level. The findings of our research prove that SDL affects TP significantly in the context of Lithuanian lawyers.

The findings partly confirm the research on SDL. James-Gordon and Bal (2003) and Ho (2008) demonstrated the direct or indirect relationship between SDL and organizational performance measures. This research, however, shows that TP is mostly affected by a few dimensions of SDL, namely learning determination, reflection, confidence and initiative. The findings can be explained by particular theories. For instance, self-determination theory (Deci & Rayan, 2000) explains the importance of determi-

nation dimension in our research. According to the theory (Ryan & Deci, 2000), if people meet the innate psychological needs, they can grow and be more satisfied with their well-being. Baard, Deci and Ryan (2004) also showed how intrinsic need satisfaction predicts individual performance evaluations, similarly to the way determination predicts TP in our research.

Our findings also support the research on confidence-performance relationship. Judge, Erez and Bono (1998) proved the effect of positive self-concept on performance. They argued that confident people are more positive and more motivated to perform their jobs. Therefore, self-confidence predicts job performance.

The relationship between initiative and performance was explored by Frese and Fay (2001), who claim that personal initiative is required more than ever. The authors argue that personal initiative improves entrepreneurship, innovation and work performance. We complement the findings of Frese and Fay (2001) suggesting that initiative positively influences task performance in our research.

Loo and Thorpe (2002) proved the impact of reflective learning journals on individual performance. Reflection slightly increases the prediction of TP in the SDLRS-TP relationship in our study as well.

Conclusions and implications

The paper covers under-explored relationship between SDL and individual work performance of lawyers in Lithuania. The empirical evidence proves the positive influence of SDL on work performance of lawyers. Work performance is mostly affected by the following SDL dimensions: determination, confidence, reflection and initiative.

This paper addresses the lack of empirical research on the learning–performance link at an individual level, within the profession of lawyers in particular and in the context of emerging economies where similar research is still lacking.

Limitations and further research. The research limitations are related to the choice of respondents and the research method. The results of the research cannot be generalized for any professionals as they are related to the specifics of the lawyers' job. The research carries the limitations related with the self-report survey type. Additional variables, such as organizational culture, individual motivation, supervisor support, HR practices might be involved in further research to reveal a broader picture. Also, the other emerging economies might be included to test whether this context affects the SDL and TP relationship.

Practical implications. This research proves the influence of SDL on lawyer's TP. Companies use personality and achievement tests during the selection process to predict work performance of their candidates. We recommend including the SDLRS questionnaire as well. When hiring for legal position, managers should look for candidates who are determined, confident and show initiative. These personality attributes are hard to train, so it is wise to select the right employees. Besides, people exercising

SDL determine their learning goals, choose the right learning methods and actively seek the learning result. It makes the competence improvement more efficient, saving the company's training budget.

References

Alonderienė, R. (2010). Enhancing informal learning to improve job satisfaction: Perspective of SMEs managers in Lithuania. *Baltic Journal of Management, 5*, (2), 257–287.

Alonderienė, R., Pundzienė, A. (2009). Increasing the Level of Enterprise Innovation through Informal Learning: The Experience of Lithuanian SMEs. *The International Journal of Learning, 16*, (11), 83–102.

Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology, 34*(10), 2045–2068.

Bartkevičienė, A. Žydžiūnaitė, V. (2013). Imigrantų savivaldaus mokymosi patirtys dalyvaujant bendruomeninių organizacijų veiklose. *Vocational Education: Research & Reality*, *24*, 34–45.

Beitler, M. A., & Mitlacher, L. W. (2007). Information sharing, self-directed learning and its implications for workplace learning: A comparison of business student attitudes in Germany and the USA. *Journal of Workplace Learning*, *19*(8), 526–536.

Cunningham, J., & Hillier, E. (2013). Informal learning in the workplace: key activities and processes. *Education + Training, 55*(1), 37–51.

Fleming, D.E., Artis, A.B., & Hawes, J.M. (2014). Technology perceptions in employees' use of self-directed learning. *Journal of Services Marketing, 28*(1), 50–59.

Fluegge-Woolf, E. R. (2014). Play hard, work hard. *Management Research Review, 37*(8), 682–705.

Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research in Organizational Behavior, 23*, 133–187.

García-Morales, V. J., Jiménez-Barrionuevo, M. M., & Gutiérrez-Gutiérrez, L. (2012). Transformational leadership influence on organizational performance through organizational learning and innovation. *Journal of Business Research, 65*(7), 1040–1050.

Garrison, D. R. (1997). Self-directed learning: Toward a comprehensive model. *Adult Education Quarterly, 48*(1), 18–33.

Gerber, R., Lankshear, C., Larsson, S., & Svensson, L. (1995). Self-directed learning in a work context. *Education + Training*, *37*(8), 26–32.

Guglielmino, L.M. (1978). Development of the self-directed learning readiness scale. Doctoral dissertation, Dissertation Abstracts International, University of Georgia, Vol. 38 No. 64667A.

Guglielmino, P. J., & Roberts, D. G. (1992). A comparison of self-directed learning readiness in US and Hong Kong samples and the implications for job performance. *Human Resource Development Quarterly, 3*(3), 261–271.

Gunawardena, W.A.M.S.U. & Galahitiyawa, N.W.K. (2016). The Role of Emotional Intelligence on Workplace Bullying and Individuals' Work Performance. *Sri Lankan Journal of Management. Jan-Jun 2016, 21,*(1), 1–38.

Hashim, J. (2007). Competencies acquisition through self-directed learning among Malaysian managers. *Journal of Workplace Learning, 20*(4), 259–271.

Henttonen, K., Kianto, A. & Ritala, P. (2016). Knowledge sharing and individual work performance: an empirical study of a public sector organisation. *Journal of Knowledge Management, 20*(4), 749–768.

Ho, L. A. (2008). What affects organizational performance? The linking of learning and knowledge management. *Industrial Management & Data Systems, 108*(9), 1234–1254.

Ho, L. A. (2011). Meditation, learning, organizational innovation and performance. *Industrial Management & Data Systems, 111(1)*, 113–131.

Increasing worker learning and empowerment by providing quiet time. (2010). Development and Learning in Organizations: *An International Journal, 24*(3), 24–26.

James-Gordon, Y., & Bal, J. (2001). Learning style preferences of engineers in automotive design. *Journal of Workplace Learning, 13*(6), 239–245.

James-Gordon, Y., & Bal, J. (2003). The emerging self-directed learning methods for design engineers. *The learning organization, 10*(1), 63–69.

Janiūnaitė, B. Petraitė, M. (2012). Organizational Learning for Innovation: Challenges for Different Organizations Management. *Proceedings of the European Conference on Knowledge Management*, Vol. 1, p. 530–539.

Judge, T. A., Erez, A., & Bono, J. E. (1998). The power of being positive: The relation between positive self-concept and job performance. *Human Performance, 11*(2–3), 167–187.

Kang, Y. J., Kim, S. E., & Chang, G. W. (2008). The impact of knowledge sharing on work performance: an empirical analysis of the public employees' perceptions in South Korea. *International Journal of Public Administration, 31*(14), 1548–1568.

Karakas, F., & Manisaligil, A. (2012). Reorienting self-directed learning for the creative digital era. *European Journal of Training and Development*, 36(7), 712–731.

Koopmans, L. (2014). *Measuring Individual Work Performance*. The Netherlands: CPI Koninklijke Wöhrmann, Zutphen.

Koopmans, L., Barnaards, C. M., Hildebrandt, V., Buuren, S. V., Beek, A. J., & Vet, H. C. (2012). Development of an individual work performance questionnaire. *International Journal of Productivity and Performance Managemen, 62*(1), 6–28.

Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Schaufeli, W. B., Vet, H. C., & Beek, A. J. (2011). Conceptual Frameworks of Individual Work Performance. *Journal of Occupational and Environmental Medicine, 53*(8), 856–866.

Loo, R., & Thorpe, K. (2002). Using reflective learning journals to improve individual and team performance. *Team Performance Management: An International Journal, 8*(5/6), 134–139.

Marsick, V. J., & Watkins, K. E. (2001). Informal and incidental learning. *New Directions for Adult and Continuing Education, 2001*(89), 25–34. doi:10.1002/ace.5

Nunnally, J. C. (1978*). Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Palethorpe, R., & Wilson, J. P. (2011). Learning in the panic zone: strategies for managing learner anxiety. *Journal of European Industrial Training, 35*(5), 420–438.

Pritchard, N. (2010). Learning and performance journeys. *Industrial and Commercial Training, 42*(6), 303–308.

Raemdonck, I., van der Leeden, R., Valcke, M., Segers, M., & Thijssen, J. (2012). Predictors of self-directed learning for low-qualified employees: a multi-level analysis. *European Journal of Training and Development, 36*(6), 572–591.

Rana, S., Ardichvili, A. & Polesello, D. (2016). Promoting self-directed learning in a learning organization: tools and practices. *European Journal of Training and Development, 40*(7), 470–489.

Robotham, D. (1995). Self-directed learning: the ultimate learning style? *Journal of European Industrial Training, 19*(7), 3–7.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68.

Saeid, N., & Eslaminejad, T. (2017). Relationship between Student's Self-Directed-Learning Readiness and Academic Self-Efficacy and Achievement Motivation in Students. *International Education Studies, 10*(1), 225–232.

Salminen, H., Vanhala, M., & Heilmann, P. (2017). Work-related attitudes as antecedents of per-

ceived individual-, unit-and organisation-level performance. *International Journal of Organizational Analysis,* (just accepted), 00-00.

Sawang, S., Newton, C., & Jamieson, K. (2013). Increasing learners' satisfaction/intention to adopt more e-learning. *Education + Training, 55*(1), 83–105.

Self-directed learning in the workplace. (2007*). Development and Learning in Organizations: An International Journal, 22*(1), 22–23.

Smith, P. J., Sadler-Smith, E., Robertson, I., & Wakefield, L. (2007). Leadership and learning: facilitating self-directed learning in enterprises. *Journal of European Industrial Training, 31*(5), 324–335.

Stansfield, L. M. (1997). Employee – develop yourself! Experiences of self-directed learners. *Career Development International, 2*(6), 261–266.

Suliman, A., & Harethi, B. A. (2013). Perceived work climate and employee performance in public security organizations in the UAE. *Transforming Government: People, Process and Policy, 7*(3), 410–424.

Tims, M., Bakker, A. B., Derks, D., & van Rhenen, W. (2013). Job crafting at the team and individual level: Implications for work engagement and performance. *Group & Organization Management, 38*(4), 427–454.

Tippins, M. J., & Sohi, R. S. (2003). IT competency and firm performance: is organizational learning a missing link?. *Strategic Management Journal, 24*(8), 745–761.

Tseng, C.-C. (2013). Connecting self-directed learning with entrepreneurial learning to entrepreneurial performance. *International Journal of Entrepreneurial Behavior & Research, 19*(4), 426–446.

Williamson, N. (2007). Development of a self-rating scale for self-directed learning. *Nurse Researcher, 14* (2), 66–83.

Žalys, L. Janulienė, I. Žalienė, I. (2005). Transformation of Traditional Tourism Organization into a Learning Organization. *Knowledge-Based Economy: Management of Creation & Development: Proceedings of the international scientific conference, 22–23 September, 2005, Kaunas. 2005*, 385–395.