The Learning Transfer System and the Impact on Individual Performance

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The recognition of a transfer problem in workplace training has led to a stream of research from various disciplines aimed at defining, explaining, and promoting solutions for the lack of transfer from training to job performance. Estimates of the transfer of learning to work performance vary depending on the study cited. Indeed, some scholars have brought attention to problems with transfer estimates (Fitzpatrick, 2001; Saks, 2001) and the 10% estimated rate of transfer that has proliferated the scholarly literature. Despite questions about the exact estimate of transfer, it is well supported in the literature that organizations are not achieving the best return on their training investment, often because of a failure to attend to conditions that support the effective application of trained skills on the job. This abstract outlines a proposed study to further advance transfer research and the application of that research in organizations.

Transfer of Learning as a System of Factors

Scholars have come to understand and promote transfer of learning as a system of factors that work together to either support or inhibit transfer. Baldwin and Ford (1988) described the transfer process as a system of training-input factors, training outcomes, and conditions of transfer. Training input factors included factors related to trainee characteristics, including ability, personality, and motivation; training design, including a strong transfer design and appropriate content; and the work environment, including support and the opportunity to use what is learned on the job. Similarly, Noe (1986) promoted the idea of trainability as being a function of ability, motivation, and perceptions of the work environment. The relationship between learning and behavior change is dependent on the trainee’s motivation to use learned knowledge and skills on the job and his or her perceptions of work group support and task constraints (e.g., whether the necessary equipment, rewards, or information will be provided;
Noe, 1986). The learning transfer system (Holton, 1996; Holton, Bates, & Ruona, 2000), consistent with the previous frameworks of Baldwin and Ford (1988) and Noe (1986), supposes that individual performance change through the transfer of learning to on-the-job behavior is dependent on motivational, work environment, and ability-enabling influences.

**Conceptual Framework**

The conceptual framework for the proposed study is based on the learning transfer system, which is defined as all factors in the person, training, and organization that influence transfer of learning to job performance (Holton et al., 2000). The learning transfer system provides the conceptual basis for the constructs of the Learning Transfer System Inventory (LTSI). The LTSI, an empirically-tested instrument, measures 16 factors, across the motivation, work environment, and ability domains, believed to influence the transfer of learning to job performance. The instrument is divided into specific and general scales. The specific scales measure 11 constructs that represent factors affecting the specific training program attended. The general scales measure five constructs that represent factors affecting training within the organization in general. The instrument uses a five-point Likert scale: 1 = strongly disagree to 5 = strongly agree.

**Study Purpose and Research Questions**

The purpose of this proposed study is to examine the relationship between participants’ perception of the learning transfer system, as measured by the LTSI, and their on-the-job performance of the knowledge and skills learned in training. An additional purpose is to examine the extent to which perceptions of the learning transfer system vary among sub-organizations within the larger organization and how these variances affect individual performance. The transfer system factors, as measured by the LTSI, are the study independent
variables. Individual performance is the study dependent variable. The following are the research questions that guide the proposed study.

1. What is the relationship between motivational influences and individual performance?
2. What is the relationship between work environment influences and individual performance?
3. What is the relationship between ability enabling influences and individual performance?
4. To what extent do the LTSI factors predict individual performance?
5. How do perceptions about the learning transfer system vary among sub-organizations of a larger organizational system?

Transfer System Factors as Measured by the LTSI

A significant relationship is expected between each of the LTSI factors and the dependent variable, individual performance. The presence and comparative strength of these factors are believed to affect the likelihood of whether knowledge and skills obtained in training will be applied on the job and result in improved individual performance. Consistent with the purpose of the study and the research questions, correlations between the individual LTSI factors and individual performance will be tested. In addition, the ability of the LTSI to predict individual performance will be examined. Predict in this sense refers to how much of the variance in individual performance can be accounted for by scores on the LTSI scales.

In addition, the literature strongly supports the importance of the transfer climate, which is described as circumstances and conditions within the organization, but outside the learning environment, that influence the application of new knowledge and skills on the job (Rouiller &
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Goldstein, 1993). Several studies have found a direct and significant relationship between transfer climate and transfer outcomes (e.g., Bates, Holton, Seyler, & Carvalho, 2000; Kontoghiorghes, 2001; Lim & Morris, 2006). Factors related to transfer climate are captured in the work environment domain of the LTSI. Given the power of context in the transfer system, I expect that the work environment domain will account for the majority of the variance in individual performance.

The context for the proposed study involves various sub-organizations (i.e. county offices) within a large state agency. I expect that transfer systems will vary among sub-organizations and that the greatest differences will be found in the work environment domain. I would also expect these differences to affect the study dependent variable, individual performance. Analysis will include comparisons of perceptions of the learning transfer system across different sub.organizations.

**Individual Performance**

The study’s dependent variable is individual performance, which I am defining as change in individual performance as a result of knowledge and skills gained in training being applied on the job. The literature provides important considerations for operationalizing and measuring transfer to performance.

In their meta-analysis of transfer research, Blume, Ford, Baldwin, and Huang (2010) found that reported relationships between variables and transfer are significantly affected by the source and timing of the transfer measure. For example, few studies use behavioral ratings or observed and recorded actual behaviors. Instead, most studies rely on learning and short-term retention or self-report of intention to use trained knowledge and skills as the measure of transfer (Baldwin & Ford, 1988). This problem persists in the transfer research today, despite the call for studies to take on a higher level of rigor with objective measures (Blume et al., 2010).
studies with “same-source and same-measurement context” (Blume et al., p.1071) effects (i.e. measurement of the input factors and outcome factor of transfer gathered from self-report measures at the same time) were disregarded in the recent transfer meta-analysis as this was shown to affect study outcomes.

In this proposed study, objective measures of transfer that reflect the effective application of learned knowledge and skills will be employed. Also, appropriate lag time between the training intervention and the measurement of transfer will be integrated in the research design. Finally, transfer predictor variables will be tested in the context of a training intervention designed to address specific gaps in knowledge and skills in a measurable area of staff competency.

**Research Design and Methods**

The strongest design for this study is a pre-post design that would allow comparisons between pre-training performance and post-training performance. Prior to the training intervention, supervisory ratings and/or quality assurance record reviews will be used to rate each participant’s job performance related to the knowledge and skills to be trained. The LTSI will be administered at the conclusion of the training program, preferably as a part of other end of course activities. This data collection will also include factors/demographics related to the sub-organization. Transfer will be measured with a lag time of three to four months between the training intervention and the post-training assessment of performance.

**Significance of the Study and Contribution to HRD**

The LTSI holds significant promise in its ability to diagnose barriers to transfer, provide support for data-driven interventions to address those barriers, and isolate critical factors for evaluating training effectiveness. The instrument has shown construct validity through a number of studies and early signs of criterion validity (e.g. Bates et al., 2000; Bates, Kauffeld, & Holton,
2007; Chen, Holton, & Bates, 2005; Devos, Dumay, Bonami, Bates, & Holton, 2007), although criterion studies are limited. A psychometrically sound instrument that provides HRD practitioners with a clear assessment of factors that may influence the effectiveness of their training programs is valuable and may help to improve the “transfer problem” in organizations. This study seeks to extend understanding of the learning transfer system and to further validate the LTSI.

In addition, it would seem that not every organization’s transfer system is the same. Transfer systems vary depending on the type of organization, the culture of the organization, and the type of training (Holton, Chen, & Naquin, 2003). These systems may also vary within organizations when diverse work units are considered, as one study of transfer and organizational subcultures demonstrated (Egan, 2008). This study will contribute to the field’s understanding of how transfer systems vary within organizations and how these variances affect individual performance.
References


