

The Reciprocal Transfer of Learning from Journals to Practice

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On peut maintenir le transfert réciproque du savoir entre les journaux scientifiques et la pratique dans la psychologie I/O. C'est que les journaux donnent des solutions à la pratique et que l'application de ces solutions initie la publication d'une recherche supplémentaire. Pour supporter cet argument la recherche et la pratique de l'auteur dans les domaines de la motivation des employés, l'évaluation de la performance, l'entraînement, et la sélection personnelle, est utilisée.

A strong case can be made for the reciprocal transfer of learning between the journals and practice, as well as for blurring the distinction between the science and practice of I/O psychology. This is because journals consistently provide answers for practice, and the implementation of the answers provides a basis for publication and subsequent research. The author's research and practice in the areas of employee motivation, performance appraisal, training, and personnel selection are used in support of these arguments.

INTRODUCTION

This paper may be at best retrospective sense making in that I provide, at the request of the Editor, an explanation as to why I believe a strong case can be made for the reciprocal transfer of learning between the journals and practice. In making this case, I draw upon my work history where the effect of the journals on my practice was and continues to be reciprocal.

My goal to become a practitioner was explicit when I chose the two institutions to pursue my masters and doctoral degrees, namely, the Georgia

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Institute of Technology and the University of Akron. Both of these institutions were staffed by faculty who modelled conducting empirical research, driven by theory, that yielded results of practical significance. My mind set or superordinate goal was and continues to be to make a positive difference in the work lives of others. Inculcated in me through modelling my mentors is a norm of reciprocity operationalised cognitively and behaviourally as follows: if one receives a sound education in psychology that enables high quality practice in organisational settings, one is obligated to make a contribution to our literature so that others can receive an education that will affect their practice positively. In short, knowledge derived from practice should inform the journals.

My goal to be a practitioner led me to seek an environment that would facilitate its attainment. Immediately upon completing my master's thesis, the American Pulpwood Association (APA) who had sponsored it, invited me to become their first staff psychologist. After two years' employment, I returned to graduate school. In the second year of my doctoral programme, I accepted an invitation from the Weyerhaeuser Company to become their first staff psychologist. They enticed me with the promise that they would allow me to do my doctoral dissertation using them as participants on any subject that I wished. Within two years of joining Weyerhaeuser, I was invited to become a member of the Summit Group. This latter group, formed in 1968, consists of approximately 20 psychologists divided equally between people who work in an academic versus an industrial setting. It is here that the distinction between science and practice is sufficiently blurred that it is not recognisable. The group meets annually to focus on science that drives practice that drives science. Knowledge from academic research is seamlessly transferred to practice, the results of which are transferred to subsequent research. It was in these organisational environments that I discovered early in my career that the workforce consistently provides thought-provoking questions; the journals consistently provide answers for practice; and the implementation of these answers provides a basis for publication and subsequent research.

JOURNALS AFFECTING PRACTICE; PRACTICE AFFECTING PUBLISHABLE RESEARCH

The first question that was presented to me as a practitioner was: What does one pulpwood crew do that leads to high productivity while another is going broke? Without reading Campbell, Dunnette, Lawler, and Weick (1970), APA executives were aware that a hard criterion, namely, cords per employee hour, is both excessive in that it is affected by factors that are beyond the control of a crew (e.g. equipment, terrain, weather) and it is deficient in that it doesn't take into account factors for which a logging crew

should be held accountable (e.g. concerns for the environment). Moreover, a hard criterion such as cords per employee hour does not facilitate coaching or self-managing because this criterion only provides feedback on how well the crew is doing, but not what the crew should start doing, stop doing, or consider doing differently to improve their productivity.

The answer to the issue was job analysis explained by Flanagan (1954). Identify and define the specific behaviours that enable a crew to be highly productive. Behavioural expectation scales or BES (Smith & Kendall, 1963), derived from Flanagan's critical incident technique, were rejected as an appraisal instrument to capture the data from the job analysis because they were deemed by management to be unsuitable as a check list for crews to self-manage against. Further, there was scepticism within the forestry community whether behaviours identified by a psychologist through critical incident interviews identified the "right behaviours". The result was the development of a variation of BES, namely, behavioural observation scales (BOS). BOS are algebraic summated scales derived through either factor or item analysis (Ronan & Latham, 1974; Latham, Wexley, & Rand, 1975). A double cross-validation study demonstrated to the satisfaction of foresters the empirical relationship between engaging in these behaviours and cords per employee hour (Latham & Wexley, 1977). Moreover, the development of BOS provided a dependent variable that is sufficiently reliable to test subsequent theory and hypotheses in work settings (e.g. Latham, Mitchell, & Dossett, 1978).

The second question presented to me by management was: How can pulpwood workers, many of whom have less than a highschool education, be motivated to increase their productivity? The answer was found in the *Psychological Abstracts*. A newly minted PhD from Cornell University was publishing a series of studies from his dissertation which showed that people who set a specific high goal with regard to the number of arithmetic problems to be solved, tinker toys to be made, or words to be generated from anagrams performed significantly better than people who were urged to do their best (e.g. Locke, 1968).

A factor analysis of survey data yielded a serendipitous finding. Goal setting loaded on the same factor as cords per employee hour (Ronan, Latham, & Kinne, 1973). A follow-up experiment, based on studies summarised in the *Psychological Abstracts* and the survey, with random assignment to conditions, supported our correlational data. Within the first week, crews who were assigned a specific high goal for cutting down trees had higher productivity and higher employee attendance than those who were urged to do their best (Latham & Kinne, 1974). A time series design revealed that the money generated as a result of loggers having assigned goals was enormous (Latham & Baldes, 1975). And the fear that membership in a union might be a moderator or boundary variable for the positive motivational effect of goal setting proved groundless (Latham & Saari, 1982).

The high monetary benefits derived from the relatively low cost of implementing goal setting immediately caught the attention of Weyerhaeuser's senior management. The question posed by them was: How can we increase the effectiveness of goal setting? The answer that was pursued came from reading Likert's (1967) work. Abandon assigned goals in favour of goals that are set participatively. The implementation of this suggestion led to a 25-year programmatic study in both field and laboratory settings. For example, Latham and Yukl (1975) found that loggers who participated in the setting of goals had higher goals than those who were in the assigned goal condition. Consistent with goal setting theory (Locke & Latham, 1990), the higher the goal the higher their productivity. But, word processor operators who had assigned goals that were raised when they attained them and lowered when they did not do so performed as well as those with participatively set goals (Latham & Yukl, 1976). Dossett, Latham, and Mitchell (1979) found in their study 1 that assigned goals resulted in higher productivity than participatively set goals, and in their second study that the reverse was true. This led to research conducted in the laboratory where extraneous conditions could be held relatively constant.

Latham and Saari (1979a) found that when goal difficulty was held constant, performance was the same regardless of whether the goal was assigned or set participatively. In a subsequent series of laboratory studies, Latham, Erez, and Locke (1988) found that when a rationale for an assigned goal is provided, it is indeed as effective as a goal that is set participatively. But, when the task requires primarily cognitive rather than motivational (e.g. effort or persistence) skill, Latham, Winters, and Locke (1994) found that participation in decision making is indeed effective. Its effect on performance, however, is mediated by self-efficacy and strategy. That is, participation in decision making on tasks that are primarily cognitive rather than motivational in nature is effective only to the extent that it increases self-efficacy and the discovery of strategies for performing the tasks correctly. This finding explains the benefits often derived from quality circles.

The fourth issue came about as a result of Weyerhaeuser senior management's desire to test the external validity of goal setting with a population other than loggers. Coincidentally, Porter (1976) had raised a similar issue in a symposium: Will goal setting be effective when the employees are at a high level in the organisation and the criteria are behavioural? The opportunity to address this issue occurred when in response to line management's criticism of R&D, Weyerhaeuser senior management asked the question: How can we motivate our engineers and scientists to attain excellence?

The first task was to define excellence. A job analysis (Flanagan, 1954) was used to develop behavioural criteria (Latham & Mitchell, 1976). Arguments among the four R&D directors, however, led to confusion over implementation. One director argued that the philosophy of R&D should be to

let people know when they do well rather than contacting them only when they do poorly. A second argument was that excellence should be rewarded with public recognition. A third director advocated using what he believed motivates all employees, namely money. This same individual said that it would be insulting to ask R&D scientists, the majority of whom had graduate degrees, to set goals. I went to the flip chart and wrote, "do your best". An avid reader of the *Harvard Business Review* vehemently disagreed with this statement. He articulated on the basis of his knowledge of the literature, the need for participatively set goals. A counterpart observed that as they were assigned goals as directors of R&D, so should their scientists. Capturing these different viewpoints on a flip chart, coupled with an inability to resolve differences of opinion rationally, led to a 3 (assigned goals, participatively set goals, do your best) \times 3 (praise, public recognition, money) factorial design. And because bets were made as to who was right, and because Terry Mitchell was fearful of contamination through information sharing among the participants in the 9 conditions, we added a 10th condition, a comparison group in Oklahoma. The results of this programme showed that consistent with goal setting theory, praise, public recognition, and money did not lead to higher performance in the absence of goals than those in the comparison group (Latham, Mitchell, & Dossett, 1978). Participation in goal setting led to higher goals being set than those that were assigned unilaterally. Consistent with the theory, the higher the goal the higher the performance. There was a main effect for rewards due to money, but since the statistical significance between the monetary and praise conditions was not practically significant, the company chose to use praise.

A fifth question arose from the perennial dissatisfaction of Weyerhaeuser's workforce with performance appraisals. The comment was often made that nothing kills motivation faster than perceptions of bias in one's evaluation. How can we increase the objectivity of our appraisers? Answers came from reading Ronan and Prien (1971) as well as drawing inferences from research that was done on ways to minimise the similar to me error (Rand & Wexley, 1975) and contrast error in the selection interview (Wexley, Yukl, Kovacs, & Sanders, 1972). Through active participation in evaluating people on videotape, receiving knowledge of results, and practice, a programme that is the forerunner of frame of reference training was developed to train managers to record behaviour objectively (Latham, Wexley, & Pursell, 1975).

When adherence to Wernimont and Campbell's (1968) procedures regarding signs, samples, and criteria failed to yield a significant validity coefficient, the observers who provided the criterion measures were given the above training to increase their objectivity as observers. The outcome was a valid selection instrument (Pursell, Dossett, & Latham, 1980). Fay and Latham (1982) found that observers are prone to making observational errors regardless of whether the appraisal instrument is a BES, BOS, or a trait scale; once

people are trained to be objective, both BES and BOS are superior to trait scales.

Weyerhaeuser presents itself as the “tree growing company”. Not surprisingly, senior management wanted to motivate their tree planters as well as the employees who trap the mountain beaver who eat young seedlings. The decision was made to bring Las Vegas to the forest with a schedule of reinforcement programme. Coins tossed in the air often disappeared in the mud (Yukl & Latham, 1975; Yukl, Latham, & Pursell, 1976; Saari & Latham, 1982) and dice were thrown in the back of the crew bus (Latham & Dossett, 1978) as employees were rewarded monetarily on either a variable ratio or a continuous schedule of reinforcement. Not a single grievance was filed by the unionised crew members where grievance filing prior to these reinforcement programmes had been the norm (Latham & Dossett, 1978). Productivity soared. Where did the idea for administering bonuses in this fashion come from? Reading an introductory psychology undergraduate textbook as well as a laboratory experiment/simulation by my mentors, Yukl and Wexley (Yukl, Wexley, & Seymore, 1972).

In 1977, I received a pre-print from Bandura (1977) that integrated research on goal setting and operant conditioning. That same year, I read Sorcher’s (Goldstein & Sorcher, 1973) article on the application of behaviour modelling principles to organisational settings. Thus when Weyerhaeuser declared “no more labour strikes due to our supervisors”, I was ready to implement a training programme based directly on what I had recently finished reading, namely a course on increasing supervisory skills (Latham & Saari, 1979b). Those articles led to the discovery of Fred Kanfer’s (1970) work that together with the articles of Bandura and Sorcher led to the development of training programmes to enable unionised employees to overcome perceived barriers to, and increase their self-efficacy for, coming to work (Frayne & Latham, 1987; Latham & Frayne, 1989). These studies, stemming directly from Bandura’s (1977) early paper, led to the development of an effective training programme on increasing functional self-talk to increase self-efficacy among managers to become re-employed (Millman & Latham, 2001).

In 1976, Weyerhaeuser bought a mill in Arkansas. The question posed to me was “Who do we keep as employees?” On a Sunday afternoon I was sent from Seattle to Hot Springs to generate an answer before the following day. Integrating Flanagan’s (1954) critical incident technique with Locke’s (1968) article on goal setting led to the development of the situational interview where applicants are presented with critical incidents that contain a dilemma (Latham, Saari, Pursell, & Champion, 1980; Latham and Saari, 1984). The dilemma “forces” people to state their actual intentions rather than a socially desirable response (Latham & Skarlicki, 1995). Reading Smith and Kendall’s (1963) paper on behaviourally anchored rating scales led to the idea of providing behavioural benchmarks for the interviewers to use to score an

applicant's responses. The result was a selection instrument with criterion related validity (Latham & Sue-Chan, 1999).

DISCUSSION

The question that is continually asked of me by more than one practitioner is whether I still read the journals. My answer is an emphatic yes for the reasons cited above. If the journal article does not transfer, if it does not inform the practice of psychology, it was arguably not worth publishing. This is because industrial-organisational psychologists have embraced the scientist-practitioner model. I believe the journals inform and are informed by practice. Thus an equally, if not more interesting question is: Why have you stopped reading them? The answers that I have received are as follows.

1. Lack of time. Academics are paid to read; they are paid to teach and do research on the basis of what is in the journals. Practitioners are paid solely to practice. But not to read is to accelerate professional obsolescence; it ensures uninformed practice (Latham & Latham, 2000). Regardless of whether the content domain is selection, performance management, training, or motivation, answers to questions to issues presented to me by senior management and union executives were found easily by me in the journals.
2. Transfer of learning from the journals to practice is difficult and even clumsy when trying to go from one finding or one insight to a specific application; it is not easy to put two or three findings or observations together to generate something that is more than the piece or pieces with which you started. This is true. But this explanation is no different in psychology than it is in medicine. A thrill in research is the same thrill in practice, only in the latter it is greater than in the former because in practice one can see the positive differences an application or intervention makes to the lives of others. The thrill is the art of discovery; a discovery that $1 + 1 + 1 = 4$ or greater.
3. The organisation and the participant sample are different from the ones with whom I am working. This explanation for the lack of transfer from journals to practice confuses transfer of learning on the basis of identical elements with that of common principles. Just as a good cook reads a recipe and makes changes to develop something new and appropriate for dinner guests, a good practitioner reads a scientific journal and makes changes to develop something new and appropriate for the client organisation. Theory provides a framework and a rationale for implementing a set of ideas; the procedure section of a journal article makes explicit the ways to do so. As for identical elements, Locke (1986), in an edited book, showed that findings from

one sample (e.g. college students) generalise to samples from other populations in most areas of organisational psychology. Moreover, most journal editors are receptive to submissions that deal with external validity. Practitioners can enhance knowledge in psychology by discovering that what is found in one country, one organisation, or one participant sample generalises or fails to generalise to others.

4. Practitioners reject journals that reject them. They are not alone in this behaviour; academics do likewise. Given rejection rates of 75 per cent or higher in psychology journals, publication has never been an easy process. But this rejection rate increases the probability that that which is published is of sufficient rigor that the results are replicable by others. Replication is the sine qua non of both practice and science. The rigor with which the methodology must be reported and the results substantiated minimises the probability of a type 1 error.
5. The journal topics are too narrow. More concern is spent on minimising the confounding of independent variables than on influencing the dependent variable. The solutions to this concern are at least three-fold. First, psychology has accumulated a vast amount of knowledge in the 20th century on the effects of isolated independent variables on asundry dependent variables. In the 21st century, it is time to combine independent variables in the form of treatment packages similar to that which is done in medicine to significantly improve the health of the individual. Second, practitioners need to author these articles. Concerns with confounding can be dealt with in references in the introduction of the journal article to the studies that show the effects of each variable independently. The purpose of this new article is to study the effects of these variables when they are combined. The field awaits this contribution to the journals from practitioners (Latham & Latham, 2000). Third, academics and practitioners need to collaborate fully in trying to understand a phenomenon, and to identifying and explaining ways to overcoming barriers to implementation. Both parties must be open to challenge and inquiry from the other (Latham & Latham, 2000).

The implicit theory underlying this manuscript is that practitioners have as much to contribute to and benefit from the journals as do their academic counterparts. Inductive research on field issues, inducing concepts that organisational decision makers see as relevant, contributes to and benefits from deductive research emanating from theory. To paraphrase a Chinese proverb, to hear is to forget, to see is to remember, to do is to understand. When we as psychologists see the journals, we may remember, but we may not “get it”. When we do something on the basis of what we have read, either as scientists or as practitioners or as one, we do “get it”, we do

transfer what we have read in the journals to asundry situations. To paraphrase Tennyson's words from the last century, the time has now come for us in psychology to generate knowledge for and transfer knowledge from our journals to build a better world in this new century.

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