

Delen uit de Masterthesis:

A Case Study of Transfer and Multilevel Benefits of a Talent Development Program

The DSM Case – Towards An Integrative Approach of Training and Professional
Development



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Abstract

Purpose – In the current society, organizations need to come up with well-designed training and development activities in order to adapt to the changing environment. Unfortunately, few organizations have a training and development design that is aligned with strategic goals and that advances an integrative approach. DSM is one of the few organizations that has come up with such an innovative program. On top of that, it is one of the first programs that really attempts to close the bridge between training and practice.

Design/Methodology/Approach – Interviews were conducted in two groups of employees and supervisors at DSM. Both data sets were qualitatively analyzed. The first round of interviews led to a document analysis, the second round of interviews led to a content analysis.

Findings – In the document analysis, individual-, team-, and organizational-level outcomes have been reported. On top of that, one of the first attempts has been made to express the training outcomes in terms of financial return on investment. A ROI amount is found ranging between 2.6 and 4.1 million euro resulting from the training intervention. Lastly, mounting evidence is found of vertical transfer taking place in the organization. In the content analysis, mainly individual-level outcomes have been found. On top of that, many variables have been found supporting as well as inhibiting transfer of training to the workforce. Lastly, two new emergent transfer variables have been found: consultant support and supervisor expectancy.

Practical implications – The findings indicate variables that are of interest for facilitating and inhibiting transfer and thus ask for attention. On top of that, training outcomes are reported in the organization at all three levels. Lastly, financial ROI is mentioned and can be used for strategic goals.

Originality/Value – For the first time in the literature, a case is discussed with an integrative approach to training and development. On top of that, this is one of the few attempts in literature to address financial ROI resulting directly from the training interventions.

Keywords – Training, development, ROI, transfer, individual-level, team-level, organizational-level, training outcomes, integrative, multilevel

Paper type – Master thesis

1. Introduction

.....As stated, over the years many themes have been investigated in the training literature and new insights are revolutionizing the field. The quality and quantity in training research has increased resulting in better theoretical, methodological, and empirical work (Salas & Cannon-Bowers, 2001). Also the field no longer belongs to a single discipline. Whereas the field was dominated by mainly psychological research in the beginning, now the research is expanding to other disciplines as well, such as organizational development, instructional design, human resource management, knowledge management, and human factors (Aguinis & Kraiger, 2009). This multidisciplinary approach, together with a multilevel analysis approach focusing on individual, team, and organizational levels, is slowly resulting in a more integrative perspective on training, a perspective on training that was requested for already a decade ago (Kozlowski & Salas, 1997; Kozlowski & Klein, 2000; Kozlowski et al., 2000).

There is also more empirical support for the benefits of training for individuals and teams, unquestionably making the point that training works. Aguinis and Kraiger (2009), for example, describe considerable support for variables that relate directly to performance (e.g., adaptive expertise, self-management skills, technical skills, innovation and tacit skills) and that relate indirectly to performance (e.g., task coordination in teams, empowerment, planning, and communication). Also support for benefits of training on the organizational-level has been found (Aguinis & Kraiger, 2009). For example, Aragón-Sánchez, Barba-Aragón, and Sanz-Valle (2003) found that some types of training interventions, including training inside the organization using in-house trainers and on-the-job training, 'were positively related to most dimensions of effectiveness and profitability.' Furthermore, recent research on transfer of training has brought forward new insights into factors enhancing transfer, best practices, and even a suggestion for a new model of transfer with several new transfer variables (Burke & Hutchins, 2007; Burke & Hutchins, 2008). These insights are resulting in a maturing field of training and are leading towards better principles and guidelines for analyzing, designing, developing, implementing, and evaluating training interventions. However, although the above demonstrates that the training research field is maturing, two common themes in literature and in practice that keep demanding special attention are 1) empirical research on how training at the individual level leads to organizational-level impact and how this results in returns of investment (ROI), and 2) transfer of training to the workplace (Aguinis & Kraiger, 2009; Salas & Cannon-Bowers, 2001; Kozlowski et al., 2000; Aragón-Sánchez et al., 2003; Kontoghiorghe, 2004), two themes related to the evaluation and effectiveness of training (Alvarez, Salas & Garofano, 2004).

Starting with organizational-level impact, still fewer than 5% of all training interventions are assessed in terms of their financial return of investment (ROI) to the organization (Swanson, 2001). Organizations are maintaining a paradoxical position with respect to investments in training. Often training is accepted as an important means to influence employees' performance. However, in practice, organizations face this challenge with cost repression because they do not understand how investments in training exactly provides value for the organization. A reason for that is that training evaluation is not carried out in a professional manner, or does not exist at all in many organizations. Another reason is that training evaluation is often avoided because it is considered a time consuming and expensive process (Aragón-Sánchez et al., 2003). Also lack of sponsorship, planning, budget, and antiquated accounting methods are mentioned as reasons why training evaluation fails (Berge, 2008). A final reason is that a research design with respect to organizational-level outcomes is relatively difficult to conduct. It proves very difficult to conduct such a research since it is almost impossible to control for all the variables that are into play, e.g. culture, work environment, psychological contract (Wright & Boswell, 2002), and cause-effect

relationships are difficult to obtain in the long-term (Aragón-Sánchez et al., 2003). In addition, Kozlowski et al. (2000, p. 158) mention a levels paradox being responsible for difficulties of measuring training effectiveness at the organizational level. They state that the primary goal of training is to enhance organizational effectiveness, while the models, methods, and tools of training focus on the individual level. According to these authors, 'the organizational context, its effects on training, and the means by which training effectiveness affects organizational objectives are not adequately addressed in current models' of training (Kozlowski et al., 2000, p. 159). There is a presumption in the literature that training contributes to the strategy, objectives, or outcomes central to organizational effectiveness. This implicit linkage is made in many training models, although it has received relatively little attention in research. Therefore, research on organizational effectiveness due to training interventions is not nearly as abundant as literature on individual-level and team-level outcomes. Kozlowski et al. (2000) and Kozlowski & Salas (1997) propose a multilevel model with an integrative perspective on training to bridge the gap, in which transfer, both horizontally and vertically, plays a central role. Also Kontoghiorghes (2004) calls for a more systemic model in which non-training related organizational factors are included that influence performance. Although evidence for organizational effectiveness can be found in profitability-, productivity-, and effectiveness measures, as well as in reduced costs, improved quality and quantity, employee turnover, and social capital (Aguinis & Kraiger, 2009), there is little evidence available in the academic literature from empirical studies on this subject. On top of that, the studies that have been conducted typically use self-report data and make use of unclear causal links back to training activities (Tharenou et al., 2007). Therefore, it is interesting to analyze effects of training interventions on organizational results in a business context where the focus lies on an integrative and systemic approach of training, and pay specific attention to the role of transfer.

Transfer of training is indissoluble intertwined to organizational effectiveness. Organizations that wish to improve the ROI from training investments have to understand all the factors that affect transfer of learning. On top of that, they have to intervene to improve factors inhibiting transfer (Holton, 2000). Transfer, in other words, is seen as the primary leverage point by which training can influence organizational outcomes and effectiveness (Kozlowski et al., 2000). It is conceptualized as 'the extent to which KSAs acquired in a training program are applied, generalized, and maintained over some time in the job environment (Baldwin & Ford, 1988, p. 63).' However, this conceptualization accounts for horizontal transfer, transfer across different settings or contexts at the same level. This type of transfer has received a lot of attention in traditional training literature and research has shown how e.g. learner characteristics, training characteristics, and work environment influence transfer of training to the work environment (Burke & Hutchins, 2007).

Continuing research on horizontal transfer is also still producing new insights (Burke & Hutchins, 2008). Although these findings exist in the literature, estimates of the exact percentage of training KSAs used in the work-environment remain difficult. For example, research in 150 organizations has demonstrated that, in terms of outcomes, six months after the training only 50% of the employees use the newly learnt skills and knowledge (Saks & Belcourt, 2006). These numbers even look positive when compared to research done by Machin (2002), who demonstrated that only 10% of what is learned is used in practice. Holton and Baldwin (2000) estimate that generally a percentage of 10% to 20% is transferred to the workplace. This implies that at least half, and most likely even more, of what is learned in the training intervention is not transferred to the work-environment. Therefore, there is still a lot of room for advancements with respect to this theme.

Once transferred to the work-environment, it is unclear how effects of training at varying levels – individual, team, and organizational – affect each other. Aguinis & Kraiger (2009) suggest that benefits of training may have a cascading effect, implying that individual-level benefits affect team-level benefits, which in turn affect organizational outcomes. With this, they refer to vertical transfer, a process responsible for outcomes at varying levels within the organization. 'Vertical transfer is concerned with the link between individual-level training

outcomes and outcomes or results at higher levels of the organizational system' (Kozlowski et al., 2000, p. 159). Unfortunately, this link has been largely neglected in academic literature and empirical research is scarce (Kozlowski et al., 2004; Aguinis & Kraiger, 2009; Holton 2005). Since vertical transfer is expected to explain results of training interventions at higher levels of the organization, it is interesting to analyze in practice whether trainees mention this process and demonstrate outcomes at higher levels.

In sum, research is needed to understand how effects of training interventions on individuals translate into better functioning at the team and organizational level, and how training and development design can contribute to that. Therefore, new approaches and new insights on implementing, applying, and evaluating training and development programs, including effective transfer to the work environment, are needed. As Salas & Cannon-Bowers (2001, p. 491) conclude in their training review: 'much needs to be done, but it is only through mutual reciprocity – science and practice – that real progress will be made.' Burke & Hutchins (2007) add, in their future recommendations advice on transfer research, that the utility of various transfer practices in organizations should be validated to provide a closer connection between practice and research. On top of that, they state that there is a need to view transfer from a systemic multilevel perspective, a holistic approach that is conceptually modeled by Kozlowski & Salas (1997) and Kozlowski et al. (2000) and is recently given more attention by Kontoghiorghes (2004). Therefore, this thesis focuses on an existing talent and development program at DSM Nederland with various unique features with respect to training and development and transfer issues from a multilevel perspective. In doing that, this thesis adds to existing literature by providing an in-depth qualitative analysis of horizontal and vertical transfer issues and ROI issues.

DSM Nederland has developed and implemented an innovative talent development program (TOP) that has a variety of unique features. The program includes multiple interventions aimed at supporting the development of individual talents as well as the effectivity of teams in the work environment. With the work-environment as starting as well as end point of the programs, the interventions assure that talent development is maximized through improving management competencies that are needed to obtain the concrete goals as formulated in the work-environment. The role of the supervisor, the trainer, and the consultant is crucial in relating the learning and development environment to the work environment. Supervisor, peers, trainers and consultants, each in their own way, are collaboratively involved in the TOP program in order to create a 'natural' transfer from the program to the work environment. On top of that, the TOP program starts after the promotion of an employee (post-transition intervention) instead of before a promotion (pretransition intervention). This is done because the employee has to be challenged by the workenvironment to be intrinsically motivated to improve competencies. Moreover, in this way, the program does not only contribute to the individual development but at the same time to the development of the team the participant is working with on a daily basis. A main assumption of this innovative approach to training and development is that problems with transfer of training to the work-environment is no longer a problem. In addition, the program claims to deliver direct measurable effects in terms of financial outcomes through business cases. If DSM is able to truly verify these claims, claims related to Kirkpatrick's (1998) level 3 and 4 evaluation taxonomy, that would imply DSM has a strong and powerful program.

In order to better understand the impact of training and development in the organization, the DSM case is discussed and evaluated. On the basis of a theoretical framework, the approaches at DSM are placed into context for as far as possible. Given some key features of the TOP program as described above, it is hypothesized that problems with transfer of training will not play an important role and therefore the effects of the program in the work environment, on the individual as well as the team level, will be significant. The main question underlying this thesis is: "Does the DSM approach reach the anticipated effects it is aiming for and to what extent or in what aspects is it substantially different from other training

and development approaches described in literature?” Of specific interest is the research question: “What factors or variables facilitate or inhibit transfer of training to the work-environment in the DSM approach and what causes the effects?” In addition: “Are there indications that vertical transfer is taking place at DSM?” Lastly: “Is there evidence that the TOP program is paying off in terms of financial benefits?” Through in-depth interviews with employees taking part in the TOP program, their experience with and perception of the program add to the understanding of the impact of the program. Answers to these questions contribute extensively in the training and development literature since this is the first time that such a holistic and systemic approach is analyzed, including real case evidence of ROI.

In the next chapter the research questions are addressed from a theoretical perspective. Chapter 3 focuses on the interventions taking place at DSM. Then, chapter 4 elaborates on the methodology for collecting data and researching the factors causing effects of training interventions on outcomes in the work-environment. In chapter 5, based on the findings, results are presented and discussed. These findings are placed in a broader context in chapter 6, also discussing practical implications, and recommendations are given for future research.

3. The DSM Approach to Training and Development – An Integrative Approach

In this chapter, the design of DSM’s TOP program is described. For the reader it is important to realize that the TOP program is one of the HRD tools which DSM offers. It focuses on the operational- and middle management layer of DSM. The program therefore focuses on a large pool of employees, starting at the operational level (offering the ‘allround program’, level C-35) all the way up to the management level (offering the ‘middle management program’, level C-41).

This chapter explains how the TOP program deviates from several traditional training design elements and how this theoretically contributes to training outcomes. A connection is made with the previous theoretical chapter with respect to important transfer variables that are taken into account in the DSM approach, and how transfer problems are inhibited.

To start with, in literature, generally a distinction is made between learning specific skills (‘vakinhoudelijke kennis’) and generic learning skills (management development (MD) skills). Kozlowski & Salas (1997) make a comparable distinction in their integrative framework by making a difference between ‘technostructural factors’ and ‘enabling process factors’. The former refers to the concrete derivatives of technology and structure that exist at each level of the system. The latter refers to the more transient informal, social, and human interactional processes that operationalize a given technological system at each level. The TOP interventions focus specifically on the latter, MD skill/competency/role development.

In the traditional training and development literature, as for example summarized by Salas & Cannon-Bowers (2001) in their extensive overview, the individual is the starting point for learning and development (Table 2). There generally exists a view that individuals have to be prepared for potential future jobs and therefore need training of certain management-, leadership-, communication- etc skills. Therefore, this is a pre-transition training and development approach. The person receives the training before the skills, abilities, and competencies are actually used. The intervention is single in that the training is (often outsourced and) a solitary intervention that happens. On top of that, it is often ‘out of the

context'. Training takes place outside the work environment, and the employee returns to the work environment where the peers (and the supervisor) have not received any training. One of the main questions in literature then is whether the newly learnt skills are used in the context of work, the so called horizontal transfer of training that has to take place. Literature suggests that this transfer of training often is problematic (Saks & Belcourt, 2006; Machin, 2002; Holton & Baldwin, 2000). Many variables, such as peer-support, supervisor-support, and transfer-climate, affect the transfer of training (see Appendix A for all variables found in the academic literature). Straightforward effects of the training intervention are difficult to obtain. Results are often measured in the working environment, but the causal link to the training program cannot be drawn clearly. Outcomes of training are also often measured in the training context (pre-training outcomes versus post-training outcomes) but the outcomes do not necessarily take place in the work context. Changes in the individual can be obtained although it remains difficult to exclude other variables and confounders causing these changes in the learner.

With respect to effects on group- and organizational level, it is even more difficult to obtain results and link them to the training intervention (Aguinis & Kraiger, 2009; Salas & Cannon-Bowers, 2001; Kozlowski, 1997; Kozlowski et al., 2000; Tharenou et al., 2007).

The TOP program engineers claim to have an innovative design in training, development and professionalization. In this multiple intervention design, the work-environment is the central point of focus, the starting point. In the work-environment, for example in a project, there are employees who lack certain skills and competencies in order to achieve the common goal that is set. These skills are necessary to obtain the (strategic) goal. The fact that the employee lacks certain skills is acknowledged by the IPM (integral performance measurement) system appraisal and thus by the supervisor of the employee. The supervisor determines, together with the employee(s) in the TOP program, what is needed to obtain the goal. The employee then professionalizes on these factors that determine success. Training is one part of the intervention and buttresses professionalization, next to consultancy support and the commitment of the supervisor of the employee. Because the employee first has to be challenged by the environment, the professionalization takes place after the person is promoted to a new function. In that way, the employee will be consciously incompetent and therefore will also be more intrinsically motivated to increase skills and competencies. Therefore it is considered post-transition training. Employees are trained and developed because that is needed for the work-environment in which they participate in order to become a success (e.g. a project). Effects of TOP are claimed to be easier linked to these multiple interventions. With respect to effects, the claim is that the results can be measured directly on both the individual (IPM appraisal increase) and group level (business case arguments in the work environment), also financially. It is also claimed that transfer problems will be significant lower, compared to traditional training and development interventions. The next paragraph explains the TOP intervention in the form of a metaphor, to clearly illustrate the approach.

In a soccer team, the coach sets the goal of improving from the 3rd division to the 2nd division together with his team (goal). To do this, he needs the whole team (project-team) and together they agree on the goal. An appraisal of each individual takes place by the coach and critical success factors are determined to reach the goal. In order to get to this 2nd division, his midfielder (amongst others) needs to improve the receiving of the ball (critical success factor). The coach has seen that he often makes mistakes and misses 4 out of the 10 balls he receives from his teammates (IPM appraisal measure $t=0$). Therefore, the player gets training and is professionalized on receiving the ball. He improves (IPM appraisal measure $t=1$), he now misses 2 out of the 10 balls instead of 4 (individual improvement). His other teammates improve likewise on their critical success factors, e.g. taking a corner and taking penalty kicks (group improvement). All the team-members agree that they are assessed and are consciously aware of the fact that they need to improve, and the coach is committed to finish the job, he started the whole project in the first place and is responsible for the

results. Once the team is in the 2nd division, the coach knows that the goal is achieved (team-level outcome).

In the TOP program, several design elements are integrated which together form the basis for the innovative program that is executed in the middle management- and operational layer of DSM. Table 3 gives an overview of the ten most important design elements of TOP.

The design principles of TOP	
1.	Organizational strategy as starting point
2.	Business cases as starting point
3.	A holistic approach
4.	The system as starting point (systemic view)
5.	A distinction in 'three roles' of performing
6.	Expert support
7.	Dialogue in the hierarchy
8.	The initiator/originator chooses
9.	Professional decision-making
10.	Durability of interventions

Table 3. The design criteria for the TOP program (see also Bonekamp *et.al.* 2010)

With these design elements all incorporated into the training and development program TOP, DSM Nederland is aiming for a new and innovative way of professionalizing their human capital. The strength of the program lies in the combination of methods that are applied. Not only are employees trained and educated, there is also an active and guided transfer of the theoretical and cognitive framework to the practical and performing context, e.g. with the help of consultants and supervisors. In other words, learning takes place as well as active support to apply the new skills and abilities at the workplace. On top of that, the work-environment of the person (colleagues, supervisor, project-leader) is involved in the TOP program and a financial goal is attached in the form of a real business case. The program also offers concrete keystones by departing from the corporate and business strategy, through departmental goals, into individual goals. It is this combination of methods that makes the program unique. In addition, the claims that 1) through business cases the ROI can be reliably measured and 2) transfer problems are inhibited because the program supports the translation of theory into practice, make the TOP program a very interesting case for science. This combination of interventions has not been discussed in literature before. Therefore, TOP is clearly an integrative and holistic approach in which strategy, organizational context, delivery, transfer issues, performance outcomes, and returns on investment are all taken into consideration.

6. Conclusions and discussion

Much training research has problems with demonstrating and measuring training outcomes at the higher levels in the organization. This thesis attempts to give insight in the process of horizontal and vertical transfer, possibly resulting in these higher-level outcomes. The goal of this thesis is to examine the perceptions employees and initiators have regarding the TOP program and to analyze how the program supports or inhibits transfer of training. With obtaining in-depth information from the participants through a qualitative data analysis, this thesis contributes to the academic literature by creating a better in-depth understanding of the transfer process, both horizontally and vertically. In particular, a contribution is made to the academic literature because for the first time, a holistic and integrative approach of training is discussed and analyzed. On top of that, this is one of the first practical attempts based on casuistry to demonstrate financial ROI in the organization as a direct result of training interventions. Specifically, this thesis explored the following four research questions:

1. What facilitates (or inhibits) the transfer of training to the work-environment from an employee and supervisor perspective?
2. Are there signals at DSM that vertical transfer is taking place?
3. Is there evidence that the TOP program is paying off in terms of financial benefits?
4. In general: Does the DSM approach reach the anticipated effects it is aiming for?

Document analysis

When looking at the document analysis, one can conclude that the TOP program is paying off in terms of training outcomes and transfer support. In particular, the major category training outcomes is mentioned most often by participants (62,1%), implying that there are many benefits resulting from the TOP interventions. Most statements are related to individual-, team-, and organizational-level outcomes, together accounting for 43%. This implies that outcomes are taking place at all three levels in the organization, with team-level outcomes being mentioned the most. On top of that, many financial ROI segments have been mentioned in the document, together resulting in a ROI amount ranging from 2.6 million to 4.1 million euro. When considering the investments made in the human capital, this implies a ROI factor of approximately 3 to 4. This means that for every euro that is invested, 3 to 4 euro is coming back. Although efforts have been made in the literature to examine organizational-level outcomes, including ROI (Tharenou et al., 2007), this is one of the few attempts clearly indicating financial performance resulting from training interventions.

There is also mounting evidence in the document that the individual changes, through the teamlevel, lead to organizational-level impact. Through for example spill-over effects, not only individual learning is taking place, clearly the employees are also applying the knowledge in their jobs together with peers. A small ink spot is developing slowly resulting in a larger critical mass. This process of individuals affecting team- and organizational-level is called vertical transfer and is an interesting area for future research. Also from the segments in the document it becomes clear that the connection of the workplace as a performance environment with the TOP program is resulting in positive outcomes. However, one should be cautious when interpreting the ROI training outcomes. Although the ROI results are related directly, via the business case, to the training intervention, one should consider that the results can never be attributed to the training intervention completely. Confounding factors, such as for example economical and environmental factors, play a role as well and influence the results. The argument that without the TOP program

there would not have been a business case and thus not a financial result, is only true partially. As is illustrated for example in code 18, also without TOP a result would have been established. In that interview, it is explained that also without TOP the business case would have taken place. TOP did assist in the process, but the results can't be attributed to TOP solely. In another line of thinking, one could also argue that every hour can be invested only once. If this hour is spend on TOP, then the hour is not spend on for example improving performance somewhere else. In the business case, generally the cost of a labor hour is included, but when this hour is worth more because of a potential successful improvement project, the additional saving is lost because the hour is spend on TOP. However, one can also conclude that through TOP, the quality of performance generally improves and thus is a long-lasting result. Therefore, this will yield potential results in upcoming projects and teams which are not calculated either. In general one could conclude that calculating the ROI remains tricky but that a good effort is being made in this TOP approach.

When considering the transfer variables, which represent 34,7% of the sample, it is obvious that the work context plays an important role in the transfer process. Especially the emergent factor consultant support plays a pivotal role and in general, social support is mentioned in 16 segments to be playing an important role. Therefore, for boosting transfer, it is important to pay attention to the work environment and especially social support. When looking at the other two categories in the transfer variables, individual- and training characteristics, it became clear that the perceived utility of the TOP program, a mastery goal orientation, and intervention design also play an important role in facilitating transfer. Another important observation is that only 4 (of 95) inhibiting segments were found in the document indicating that this group of participants is perceiving the program positively. The points made in the 4 inhibiting segments relate to the transfer climate being perceived negatively and a lack of supervisor support. Here improvements can be made through better communication and overcoming resistance in the work environment.

With respect to the time variables, three activities have been mentioned influencing transfer positively. One activity is mentioned before the start of the TOP program, and advises to also familiarize the supporting management with the TOP language, top-down. This can a good thing to do in order to increase the support and motivation of the supervisor. This could have effects on the transfer climate. Two employees also mention a post-training activity, namely continuation of the consultancy support. This could also be a smart thing to do because it prevents relapse of training and it increases the amount of feedback and coaching. However, it is an expensive activity. All three are worth considering.

Based on the document analysis, the conclusion is made that TOP significantly contributes to the transfer of theory to the practice, not only taking place at the individual-level, also at the higher levels. Vertical transfer is taking place and financial ROI results are reported. This is considered by the participants as a real strength of TOP. The environment shares in the successes and matures together with the individual. Initiators are surprised by the increase in performance, both financially and qualitatively. Potential points for improvement are related to better communication from HR about the TOP program, creating a larger critical mass, and overcoming resistance at the workforce.

Overall conclusion

Unfortunately, there are not many organizations that have a training and development program with the combination of design elements mentioned in chapter 3. The integrative and holistic approach that DSM is applying with their TOP program, is innovative and unique to say the least. Not only is DSM training and developing their human capital, there is also an active and guided transfer of the theoretical and cognitive framework to the practical and performing context with the help of trainers and consultants. Also unique is the link of the program to the strategic goals of the organization.

The study's findings made clear that the TOP program is achieving great results. Especially when looking at the document analysis, it becomes clear that TOP bridges the gap between training and education on the one hand, and using the theory in the work environment on the other hand. This thesis clearly shows how formal learning interventions can have a positive influence on knowledge development. The design principles of the TOP program result in individual-, team-, and even organizational-level outcomes. The notion of these outcomes, especially at the higher levels, contributes to the literature. Mounting evidence is reported of vertical transfer and how that is taking place in the work environment. Also several notions have been made of financial returns on investment, totaling up to 2.6 to 4.1 million euro. This is even a more unique contribution to the academic literature on training and development. Also two new emergent variables have been found, namely consultant support and supervisor expectancy.

However, as can be seen with many large implementations, it takes time. The TOP program is experiencing several problems within the design and within the organization. The design principles are theoretically well-founded, but in practice several issues take place. Although the design principles are a very good start, in practice there are still signals that transfer problems play a role. The claim that transfer issues no longer play a role in the TOP program is not verified in this thesis. Especially in the content analysis, many variables have been addressed potentially inhibiting transfer. Expectancy management is one of the variables most often mentioned, standing transfer in the way. As stated earlier, a good start is half the result, implying that taking away wrong expectancies is important. Also various problems with ROI have been reported. Maybe most important in these reports, the rigorous way of having to report financial benefits as a result of the TOP program could be a pitfall to the program. Like several quotes demonstrate, often financial outcomes are not the most important aspect or result in the eyes of the supervisor or the employee. Most interesting is the improvement experienced by the person, the team, and the supervisor. From there, financial results automatically will follow.