Practitioners vs Facilitators a comparison of participant perceptions on success

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Abstract

Collaboration Engineering is an approach to designing collaborative work practices for high-value recurring tasks, and deploying those designs for practitioners to execute for themselves without ongoing support from professional facilitators [1, 2]. In this approach we propose that using rigorous thinkLet based designs we can train practitioners to support groups with similar results as professionals can. In this paper we will present a first large scale empirical analysis to compare students and practitioner in organizations facilitating for the first or second time ever, with profession facilitators. The study has some important limitations but gives a first and promising indication that practitioners can successfully take over the role of the facilitator.

1. Introduction

Groups might not be able to overcome the challenges of collaboration by themselves [3, 4]. Even if groups are able to accomplish their goals, they can often collaborate more efficient and effective using collaboration support [4, 5]. Collaboration support can exist of tools, processes and services that support groups in their joint effort. In knowledge oriented organizations, there is often a need or demand for collaboration support. Collaboration support can be offered by stimulation of increased effort, or by better focusing or directing effort [6]. Collaboration support can be offered in different shapes, such as facilitation, training and tools or technology.

A key technology for collaboration support is the use for Group Support Systems. A number of studies have targeted facilitation as a key ingredient in determining outcomes of GSS meetings [3, 7-11]. Facilitators have a variety of tasks among which designing the collaboration process, instructing the group in their activities, using the technology, and managing relations and conflicts [12].

A key challenge in collaboration support is to sustain such support in organizations. Field studies describe that it is difficult to create a business case for GSS and facilitation support implementation in an organization [13, 14], although the added value is substantial [5, 15], it is difficult to predict and document this added value. This makes it easier to eliminate such facilities in a budget crunch [13, 14]. Next, GSS are largely depending on a champion facilitator or ambassadors, once such person is gone, the knowledge disappears, [16, 17] as the skills required are very difficult to transfer.

Learning to facilitate is considered challenging. Facilitation is a task that requires skills and knowledge that can not just be learned from a book [17-20]. facilitation requires complex cognitive skills [20, 21] and is typically learned by experience.

To resolve this challenge, researchers in collaboration support proposed the Collaboration Engineering approach. Collaboration Engineering is an approach to designing collaborative work practices for high-value recurring tasks, and deploying those designs for practitioners to execute for themselves without ongoing support from professional facilitators [1, 2]. A key proposition in this approach is that we can transfer rigorously designed collaboration process to practitioners in organizations who can run such process for themselves with similar results as professional facilitators would achieve. While several field studies have been conducted [1, 22-25], no empirical evidence for this hypothesis has been reported so far.

This paper therefore presents a field study in which we transferred collaboration process designs to practitioners and students, and compared their effort and results with the results of collaboration processes executed by professional
facilitators. For this comparison we collected data from a participant perspective. In this paper we will first explain the roles in Collaboration Engineering. Next, we will discuss the approach for the design, documentation and training, followed by the criteria for success. This will lead to a set of hypotheses. In section four we present the method and instruments used, in section five we present the field study in which we collected data, in section six the results are discussed and finally the discussion and conclusions are presented.

2. Roles in Collaboration Engineering

Within the Collaboration Engineering approach, a distinction is made between the roles regarding the design and execution of a collaboration process. We distinguish a facilitator, a collaboration engineer and a practitioner [26, 27] (See Figure 1).

- A facilitator designs and facilitates collaboration processes. (s)He designs a collaboration process to execute for himself. (s)He is flexible and can adapt his process and activities to uncertain events in a group process. Since the design is not transferable, the success of the meeting depends on the facilitator.

In the Collaboration Engineering approach, this role is split up. Instead of a facilitator who designs and executes the collaboration process, there are 2 roles; the designer and executor are separate roles.

- A collaboration engineer designs a collaboration process and transfers it to practitioners. This sets different criteria for the design effort. The collaboration engineer cannot expect the practitioner to be flexible. A practitioner does not have the skills to flexibly adapt the process to the situation. Therefore the collaboration engineer should create a very high quality, robust process prescription. A collaboration engineer should be a master facilitator.

- A practitioner is a task specialist in an organization who executes a recurring collaboration process without on-going support from a facilitator or collaboration engineer. A practitioner is not required to have any general facilitation skills or experience and no experience in process design. He is however a domain expert with respect to the content of the recurring collaboration effort. A practitioner gets a short training to perform and execute only one specific collaboration process [1].

3. ThinkLet based design, documentation and training of facilitation interventions

The approach used to support the transfer of the collaboration process design is the Collaboration Engineering approach. The Collaboration Engineering approach uses thinkLets to increase the transferability and predictability of the process design. ThinkLets are named, scripted, reusable, and transferable collaborative activities that give rise to specific known variations of the general patterns of collaboration among people working together toward a goal [2, 14, 28, 29]. ThinkLets support the transfer of the collaboration process in several ways.

3.1. Predictability & design support

ThinkLets are documented as design patterns [29-31]. For each thinkLet the exact intervention is described and its effect in terms of the pattern of collaboration it creates, the type of output, and the known challenges that can occur. This enables the collaboration engineer to anticipate on known pitfalls and to revise steps in the process that might lead to uncertain outcomes.

3.2. Parsimonious documentation of interventions

The thinkLet concept offers a template for the documentation of each facilitation intervention to ensure that its documentation is complete. The thinkLet documentation offers a very precise description of the instructions that need to be communicated to the group, and of the effect that will occur as a result of those instructions [28, 29, 32, 33].

3.3. Cognitive load reduction and memory support

Besides parsimoniousness which avoids unnecessary cognitive load, the thinkLet concept also offers the information required to execute the process in a structure that supports learning. It offers the information in chunks that can be linked to the overall process through mnemonics elements in the identification of the thinkLets. ThinkLets have a name, picture and metaphor that make it easier to memorize them. A thinkLet based process is
expert facilitators and have been recognized in transcripts of characteristics
3.5. Principles of successful collaboration and GSS
practitioner to anticipate or avoid these challenges. Based on this information the training can focus on these challenges and prepare the practitioner to anticipate or avoid these challenges.

3.4. Anticipation of challenges

The thinkLets describe known pitfalls and challenges of the techniques used. Based on this information the training can focus on these challenges and prepare the practitioner to anticipate or avoid these challenges.

3.5. Principles of successful collaboration and GSS characteristics

ThinkLets have been derived from best practices of expert facilitators and have been recognized in transcripts of GSS sessions [14, 28, 29, 37]. We can therefore state that they are generally accepted by groups. Furthermore, thinkLets are based on the characteristics of GSS such as anonymity, democratic principles and efficient use of resources in the process (e.g. though parallel work, equal participation and the use of data processing capacity) [3, 38]. This further improves the likelihood of acceptance of the process.

The thinkLet based collaboration process design contains thus a process overview, a script, some background information about the domain and about the assumptions of the process, and finally a summary of this material on cue cards that can be used as memory aids during the process [33]. The process design is transferred in a training in which first some general information about facilitation is offered and next the entire process is constructed and discussed with the practitioners. Finally, the different steps are explained and simulated in a meeting where one practitioner is the facilitator and the other practitioners are participants. After each step challenges are discussed [34]. As discussed above, it is expected that thinkLets improve the design of collaboration processes [32, 39], and that their use in training reduces the learning curve of practitioners [33-35, 40].

In the next section we will discuss success factors of collaboration processes, which we can use as a basis to evaluate the success of the practitioners and professional facilitators, and therewith the transferability of the collaboration process design.

4. Successful collaboration

We look at success of a collaboration process from a participant perspective. The group that performed the collaborative task can judge the successfulness of the process and the quality of the outcome. We define collaboration as joint effort towards a goal [2]. As mentioned, success of collaboration has a process and a result component. Furthermore, we distinguish a rational and an emotional assessment of the collaboration [41]. Last, collaboration is defined as joint effort and thus its success depends on the effort and input of the group members. Based on these aspects we found the following dimensions of quality of collaboration [42]:

Rational – process success
Efficiency; the difference in real resource expense compared to the intended resource expense [43].
Emotional - result success
Satisfaction with result; affective positive arousal towards the results [41].
Emotional - process quality
Satisfaction with process; affective positive arousal towards the process [41].
Conditional
Commitment of resources; a force that binds the individual to spend resources (time, effort, knowledge and physical resources) to achieve the group goal [44].

In our field study we want to train practitioners (novice facilitators) in a short timeframe to perform as professional facilitators. Based on these dimension of quality of collaboration we present the following proposition for this field study.

A practitioner who executes a collaboration process design created and transferred according to the Collaboration Engineering approach is not outperformed by a professional facilitator on:

a. satisfaction with the process
b. satisfaction with the results
c. commitment to the process
d. efficiency of the process

To accept these hypotheses the participant perception for a recurring collaborative task on each of these factors should not be significantly different in two treatments;

Process guidance by a practitioner (trained novice facilitator)
Process guidance by a professional facilitator

Practitioner: (trainee, novice facilitator) a student or practitioner in an organization who facilitates a collaboration process for the first or second time. The practitioners get a collaboration process design from a collaboration engineer [27].

Professional facilitator: a person who facilitates group processes on a regular basis as part of his/her job [27].
Participant: a person participating in an integrity assessment workshop

Chauffeur: a person operating the Group Support System to assist the facilitator who does not address the group to give instructions.

The first author has performed the role of observer, collaboration engineer, professional facilitator and chauffeur.

In the next section we will discuss the research method and measurement framework for the study.

5. Research method

The practitioners in this study (n 21) were either students (n15) or practitioners in an organization (8). Each ran a collaboration process based on a collaboration process design, transferred to them by a collaboration engineer. In a few cases two practitioners ran the process jointly, each supporting a part of the process. In some cases training sessions were more elaborate than others, and some students got more preliminary versions of thinkLet bases process designs than other. However, all practitioners were novices in leading a group to facilitate a collaboration process with support of a Group Support System, defined as having no or very little experience in facilitating group processes. Some practitioners had considerable experience as a chauffeur, and therewith observed workshops and facilitators in this role. Only 3 professional facilitators participated in the study.

In total (37) sessions were part of the study. Average group size was 13 with a minimum size of 4 and a maximum size of 42. The sessions of both professional facilitators and practitioners took place in different settings, both in business (n19) and in educational settings (n18). In business settings professional facilitators and practitioners from organizations ran sessions for groups in an (cross-) organizational setting. In the education setting students supported sessions for students and professional facilitators supported sessions in the role of teacher. Both the sessions in educational setting and in business setting created results that were used in further work of the participants. For instance students had to accommodate results from the sessions in a report that had to be submitted for grading, and in business setting the results were used in follow up activities.

The instrument we use to measure the hypotheses described above is a questionnaire on the participant’s perception of successful collaboration. This questionnaire measures 6 constructs; efficiency, effectiveness, productivity, commitment of resources and satisfaction with results and process (Satisfaction questions were from [41, 45, 46]), each with 5 questions. Based on the factor analysis we had to drop several items and were left with valid metrics for satisfaction, commitment and for 3 of 5 questions for efficiency [42]. For each construct, five (for efficiency 3) questions have been used with a 7 point Likert scale from 1 (strongly disagree), to 7 (strongly agree). We translated the questionnaire in Dutch and translated it back to resolve translation issues. The questions used can be found in appendix 1.

To validate the research instrument first exploratory factor analysis was used to test reliability and construct validity. The result of this analysis, with Promax rotation indicated four distinct factors, out of 6 intended. The instrument for Satisfaction with Process and Outcome was already validated. Therefore we used these and two other factors that could be distinguished; Commitment and Efficiency.

The Cronbach’s α for the five Process Satisfaction (SP) items was 0.915, for the five Outcome Satisfaction (SO) items it was 0.897, for the five Commitment (CO) items it was 0.860 and for the three Efficiency (EY) items it was 0.790. All indicating a good level of inter-item reliability [47, 48]. Structural equation modeling (SEM) using AMOS 6.0 was used to perform a confirmatory factor analysis. The model consists of the selected items discussed above as endogenous variables and CO, SP, SO and EY as exogenous variables. The model was tested with the same data set. As suggested by the literature, a variety of fit measures were examined to determine the appropriateness of the model [49-51]. The χ² analysis for the model is significant (χ²=482.2, df=129, p=0.000), given the known sensitivity of this statistic to sample size use of this index provides little guidance in determining the model fit [52]. The absolute fit indexes (GFI = 0.89, AGFI = 0.86) are just below the widely used threshold of 0.90 [52], although they are consistent with levels accepted in literature [46, 53]. The incremental fit indexes (CFI = 0.95, NFI = 0.93) exceed the threshold of 0.90. The root mean square error of approximation is 0.076, indicating a fitting model [54]. We concluded that the model was valid.

6. Results

6.1. Facilitators vs practitioners

We compared the results from the practitioners with the results of the facilitators using an independent-samples t-test. The assumptions for a t-test are the following:

- There is a continuous scale used for each dependent variable: we used a 1-7 Likert scale.
- Random sampling: this assumption is not met, while we did not choose the participants, they had some reason for being in the session such as their role or expertise, or in educational setting required participation as part of a course.
- Independence of observation: this assumption is violated as well, as participants collaborated in
groups during the sessions. Statistics manuals suggest the use of a more stringent alpha.

- Normal distribution: for a sample size of 30+ violation should not pose a problem, still we used a significance level of .01.
- Homogeneity of variance: We used Levene’s test for equity of variances, this assumption was in some cases violated, in those cases we used the test in which equal variances are not assumed.

The groups we compared are the (3) professional facilitator’s evaluated by n=206 participants and the (21) practitioner’s evaluated by n=271 participants. (see table 1).

Table 1 independent-samples t-test practitioners vs facilitators

<table>
<thead>
<tr>
<th>Construct</th>
<th>M P</th>
<th>SD P</th>
<th>M F</th>
<th>SD F</th>
<th>sig. α</th>
<th>effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP (max35)</td>
<td>24.9</td>
<td>5.2</td>
<td>24.8</td>
<td>5.0</td>
<td>.931</td>
<td>0.000016</td>
</tr>
<tr>
<td>EY (max21)</td>
<td>15.0</td>
<td>2.8</td>
<td>15.7</td>
<td>2.7</td>
<td>.007</td>
<td>0.015148</td>
</tr>
</tbody>
</table>

We found that for satisfaction with process and outcome and commitment there was no significant difference between practitioners and facilitators (α =0.01). For efficiency we did found a significant effect, facilitators achieve higher efficiency scores than practitioners, but both score relatively high 5 or higher out of 7. Also the effect size etac squared was calculated. According to Cohen [55] this is a very small effect, less than 0.7% of the efficiency effect is explained by the difference between facilitators and practitioners, for the other outcomes effect size was even smaller. Practitioners and Facilitators scored relatively low on satisfaction with outcome, on the other factors they scored almost 5 or more out of 7, which indicates that they were both generally successful. Further, the standard deviation is not very different for facilitators or practitioners. Further statistical analysis is required to confirm this.

6.2. Business vs education setting

One reason for the difference in efficiency could be that most practitioners ran sessions in educational setting (14 sessions, 191 responses, 70% of the responses) and most of the facilitator sessions were in business setting (10 sessions, 116 responses 56% of the responses). Experience shows that sessions in educational setting score less positive than sessions in business setting, probably because the stakes in the outcome are less. We therefore compared the results of business and education sessions, independent from the practitioner or facilitator supporting it. The results are listed in table 2.

Table 2 independent-samples t-test Business vs educational setting

<table>
<thead>
<tr>
<th>Construct</th>
<th>M E</th>
<th>SD E</th>
<th>M B</th>
<th>SD B</th>
<th>sig. α</th>
<th>effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP</td>
<td>23.7</td>
<td>5.3</td>
<td>26.4</td>
<td>4.3</td>
<td>.000</td>
<td>0.0696</td>
</tr>
<tr>
<td>SO</td>
<td>20.5</td>
<td>6.0</td>
<td>24.4</td>
<td>4.8</td>
<td>.000</td>
<td>0.1142</td>
</tr>
<tr>
<td>CO</td>
<td>23.7</td>
<td>4.9</td>
<td>28.3</td>
<td>3.9</td>
<td>.000</td>
<td>0.2210</td>
</tr>
<tr>
<td>EY</td>
<td>14.8</td>
<td>2.7</td>
<td>16.1</td>
<td>2.6</td>
<td>.000</td>
<td>0.0623</td>
</tr>
</tbody>
</table>

We found here that educational settings score significantly less positive on all factors than business sessions. The effect size for especially commitment is very high. When participants are not committed to the session, we expect, based on the work of Locke and Latham that they will make less effort, and thus it will be more difficult to achieve high efficiency scores [56]. We believe this could be an explanation for the lower efficiency scores with practitioners. Further research is required to confirm the relation between commitment and efficiency in GSS sessions.

7. Discussion and Conclusions

7.1. Limitations

A key limitation in this research is that the test is a confirmation of the null hypothesis, which the t-test is not intended. However, combined with the fact that practitioners scored relatively high on the questionnaires, this is a promising result. Next, a limitation can be found in the observing role of the researcher. As the sessions are held in commercial or educational setting the researcher cannot allow the session to go wrong entirely, and thus, when practitioner mal-performs, the researcher has to intervene. As we tried to limit this as much as possible, the interventions made will have had an effect on the quality ratings. Another limitation is that tasks and groups are not identical and some sessions can be significantly more difficult than others, as we showed in the comparison between business and educational setting. A third limitation is the number of professional facilitators in the study, there were only 3 facilitators involved in the study and by far, most results of the facilitator were sessions run by the first author.

7.2. Discussion

We found no significant difference between facilitators and practitioners who were trained to executed a collaboration process design based on the Collaboration Engineering approach using thinkLets, with respect to satisfaction with process, result and commitment. This does not yet prove that practitioners using thinkLet based designs can achieve similar performance, but this is an encouraging result. We found a small but significant difference in scores
for perceived efficiency between facilitators and practitioners where the sessions ran by facilitators were considered slightly more efficient. However, efficiency scores were for both practitioners and facilitators positive (5 or higher out of 7), so this is not an obstacle for successful support of groups in their collaborative effort. Unfortunately our instrument needs to be improved to be able to compare perceived effectiveness and perceived productivity. Both practitioners and professional facilitators got positive scores on satisfaction with process and outcome, commitment and efficiency. Satisfaction with outcomes scored overall lower, than other factors. Recent work has been done to identify quality assurance instruments that can be incorporated in thinkLets [57]. This might help practitioners and facilitators to monitor quality and to make interventions to improve quality. This might help to improve satisfaction with the outcome and effectiveness.

Some practitioners were very enthusiastic and want to further develop their facilitation skills. We think that this approach will offer a learning approach for novice facilitators, that is likely to be more effective and efficient. The training for an all round facilitator takes weeks instead of the 2 days training provided to the practitioners. This would indicate that a Collaboration Engineering approach indeed can save high training investments. Therefore the training investment and the successfulness of the first sessions are much more in balance when using the Collaboration Engineering approach compared to a general facilitation approach.

7.3. Further research

Further research is required to analyze the learning curve of the practitioners (how do they perform in subsequent sessions) and to apply the approach in more cases, possibly with the same practitioners to evaluate the value of this approach compared to the master-apprentice approach. To gain evidence about this null hypothesis we need to show that practitioners can gain high scores on success factors, and to collect qualitative data about their role in achieving these results. Further research is also required to see if the results hold over more sessions. Next, further research is required to improve the instrument and compare practitioners and facilitators on efficiency and effectiveness. Also, more research is required to study the relation between commitment and other success dimensions. Finally, it would be interesting to move this research to a more detailed level to compare practitioner and facilitator performance for specific thinkLets.

References


**Appendix 1. Questions used**

**Satisfaction with Process**

1. I feel satisfied with the way in which today's meeting was conducted.
2. I feel good about today's meeting process.
3. I liked the way the meeting progressed today.
4. I feel satisfied with the procedures used in today's meeting.
5. I feel satisfied about the way we carried out the activities in today’s meeting.

**Satisfaction with Outcome**

6. I liked the outcome of today's meeting.
7. I feel satisfied with the things we achieved in today’s meeting.
8. When the meeting was over, I felt satisfied with the results.
9. Our accomplishments today give me a feeling of satisfaction.
10. I am happy with the results of today's meeting.

**Commitment**
11. I support the goal of this meeting as it was presented in the introduction.
12. I had a stake in achieving the goal of this meeting as it was presented in the introduction.
13. I was motivated to contribute in this meeting.
14. I was willing to put my time and effort in this meeting.
15. I found this meeting important.

Efficiency
16. The time and effort requested from me was reasonable.
17. The time and effort I spend in the meeting was what I expected.
18. My input was justified.