Case Study: Overcoming the Headache of the E-Mail Inbox Through Training

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ABSTRACT
How do we overcome the nightmare of the email inbox? This paper details a two-phase research programme to demonstrate the need to give employees training regarding email communication, and conduct both seminar based training and computer-based training. Detailed results show that email training can lead to significant improvements in the way employees use email within the workplace with computer-based training showing a greater improvement. While email is a powerful information system tool, it can be optimised to further maximise its benefits and to make the email inbox more manageable.

INTRODUCTION
Nowadays employees are overwhelmed by the volume of email communication (Levitt, 2004), lose important items (Whittaker and Sidner, 2004), and feel pressured to respond quickly (often within seconds Jackson et al., 2003), among many other concerns. The major research stream in this field is trying to reduce such “email defects” by designing and building improved email systems designed from an understanding of email usage (Rohall et al., 2004). Although such systems aim to improve email communication, could providing simple education to email users provide, at worst, an interim solution to reduce email defects?

The major source of the email issues within an organisation is likely to be the end-user, as he or she creates and receives the email that periodically causes problems. The ‘back to education’ approach is based on identifying the major problems that users face with email and administering training (both seminar and computer-based to determine which has the more enduring effect) to help users to become more effective email communicators. Although the approach sounds simple and has been successfully applied in many other arenas, will it be successful for improving email communication?

To date, there is very little literature on the role of seminar and computer-based training in improving email communication. This paper is a subset of a paper published by Jackson and Culjak’s in 2006. It aims to explore organisational email defects and their management by employee email training in seminars or computer-based modes. The research was conducted in two phases. In the first phase, an interpretative case study was conducted within a department to discover how email was used and viewed by employees. The second phase of the research involved an evaluation process that determined the effectiveness of two training approaches (seminar based and a combined approach of computer-based and seminar based training created by Jackson) to reduce the email defects identified from the first phase and improve the way employees use email.

OPTIMISING EMAIL COMMUNICATION
There are several approaches to improving organisational email use for everyday communication. Some authors suggest that organisations need to implement policies on how individuals use email within the workplace (Cushing, 2002; Duane and Finnegan, 2004). For example, Dudman (2005) suggests that organisations have policies on the retention and deletion of email, while Watson (2001) states that organisations should monitor employee email use to ensure that policies are followed.

Some organisations have taken a stand by banning email communication at certain times in an attempt to encourage employees to work without email (Cushing, 2002; Best, 2003; Wray, 2003). While this approach will force employees to communicate without email for one day a week (or, in the case of Phones 4U, stop employees using email for internal communication (Best, 2003)), it does not address the issues associated with ineffective email use, but rather, simply avoids them.
Seminar based training (SBT) refers to traditional classroom training, taught by one trained in the skills required. Computer-Based Training (CBT) (also known as computer aided instruction and computer assisted learning) is the use of the computer for training and instruction, and is commonly used for acquiring skills in the use of computer packages or acquiring specific knowledge (Whalley, 1998).

Henke (1996) stated in 1996 that computer-based training was a fast growing field. Earlier Filipczak noted that 43 percent of all U.S. organisations with more than 100 employees were using CBT as part of their training programmes (Filipczak, 1993). However, around the same time Russ-Eft, stated that only 40 percent of companies surveyed used CBT (Russ-Eft, 1994). Considering that this statistic was noted more than ten years ago, 40% is quite a high figure.

While the use of CBT has been documented and discussed, what is lacking from the literature is evidence of whether computer-based training has more enduring effects compared to seminar based training, and whether computer-based training is more effective for training employees in the use of email.

METHOD

The research seeks to improve workplace communications by investigating the way email communication is used and exploring the role of employee training in managing the issues identified. The research adopts an interpretivist approach, as the research takes place within an organisational environment, and although the research conducted was both qualitative and quantitative the research focuses on capturing information within a social environment in an organisation, rather than a laboratory (Walsham, 1995). Two stage research involved a the Professional Development (PD) Department at Loughborough University. Professional Development is a central support unit within Loughborough University that offers staff and students services to help develop their full potential. The PD department consists of 23 staff.

The first phase of the study highlighted problem areas with the way email is used within organisations. The problem areas (email defects) relate to the inefficient and ineffective uses of email within an organisation. They pertain to all aspects of email use, including the quantity and quality of emails generated within organisations, as well as the configuration of the email application itself. In order to identify the potential problem areas with email use a web-hosted internal survey was conducted and a questionnaire was developed. This method was selected because the ability to distribute the questionnaires to a wide geographical area was vital due to a number of employees being based at different locations throughout the United Kingdom. Several open-ended questions were used to capture how many emails were received by employees and how employees categorised the importance and relevance of each email. A series of closed attitudinal questions were used to gauge how email was used and how the employees viewed organisational email use. Each questionnaire was live for a period of two weeks. Sixteen responses were received from PD, giving a response rate 76%.

The second stage determined the effectiveness of both seminar-based and a combined seminar/computer-based training approach to reducing email deficiencies as will be described below. The research aims to establish which training approach is the most effective at reducing email defects and if certain defects are more receptive to the training than others. The long term impact of the two training approaches were analysed, to determine if any improvements in email use could be sustained. Further details help explain the evaluation approach used, below.

Computer-Based Software Development

The software was designed to work with Microsoft Outlook as it recognised as the defacto corporate email standard. The computer-based email training application has been built so that it flags potential defects within an email by parsing each email and highlighting the defects to the sender before the email is sent. The software can identify certain defects within the recipient field, the subject line, message body and with attachments, providing the user with the opportunity to change the email before it is sent. Details of the parsing algorithm used are published elsewhere (Jackson et al., 2005).

If an email has been previously parsed and still contained deficiencies when the user tries to resend the message, the potential defects will still be shown to the user in the ‘Mail Report’ window. Any remaining potential defects will be shown to the user regardless of the number of times that a user has edited the message. The user also has the option to ignore the defects identified by the software and to send the email once it has been parsed. It was important that the user had full control over sending an email as this gave them confidence in using the system and being able to override it. If the real time trainer did not identify any potential defects within an email, then the email would be sent to the users outbox, ready to be sent to the server.

Developing the Seminar Based Email Training Programme

The SBT summarised the common problems with email use that can exist within the workplace. Training was tailored for PD by focusing on the problems highlighted from the questionnaire results together with examples from other research. It was important to highlight the common problems with email communication in order to ensure the recipients understood the magnitude of some of the issues.

The training programme identified defects that individual employees can help reduce, by improving the way they use email. Employees were given training on how to manage their inbox, including the use of folders and filters. Defects that related to the configuration of an organisation's email system would also be brought to the attention of management in a report covering the questionnaire results.

The main section of the training focused on areas of email use that individual employees could improve. This included asking employees to consider whether it is necessary to send an email, or whether another medium such as the telephone would be more appropriate. The employees were also asked to consider to whom they were sending their email message, and whether all recipients needed to be copied in (cc-ed). The participants were given advice on how to write effective subject lines and emails that contain clear concise messages. The training also covered other aspects of email best practice, such as managing the inbox. This was considered important, as it will enable participants to better manage and prioritise their incoming email.

Measuring Improvement

Both SBT and CBT were conducted using sender and recipient pairs in order to measure the effectiveness of both SBT and CBT. The senders had an established email communication relationship with their recipients, in that they made regular contact with each other via email. Steps consisted of:

1. Once the sender / recipient pairs were established, the recipients would receive training on how to evaluate the emails they receive from their pair(s).
2. The recipients evaluated up to 20 emails that they received from their paired sender(s) over a specified timeframe.
3. After the senders’ email had been evaluated, the senders would then receive SBT on the best practices of email, even if they were going to use CBT.
4. Once the senders had received training the recipients were asked to evaluate up to a further 20 emails they received from their paired sender over a specified timeframe.

The recipients were asked to mark each email against a set of nine criteria derived from the email defects identified in the questionnaires. The difference in the scores before and after the sender received training would indicate the success or failure of the training. The recipients would be asked to date and evaluate the emails that they received after the senders had their training. This would enable the author to determine if any improvement could be sustained, or if the effect of the training was limited.

To determine the effectiveness of the SBT, the scores both before and after training were averaged for each sender / recipient pair. The average for all participating pairs was calculated to determine the overall effect of the training for each of the criterion. The t-test statistic was used to determine the significance of the SBT at reducing each of the defects represented by each criterion. The results indicate which aspects of email use are most receptive to SBT.

RESULTS

Following SBT the t-test analysis shows that four out of the nine criteria showed significant initial improvements. The four significant improvements were:

- Better written emails that were easier to read. (at the 90% level)
- Better written emails that were more concise and to the point. (significant at the 95% level)
- Better use of the subject line which made it easier to assess the importance of the message. (significant at the 90% level)
• Better use of the subject line which made it easier to know what the message is about (significant at the 95% level)

The t-test analysis also showed a significant (at the 90% level) initial improvement in the PD senders’ ability to choose the most effective communication medium for a message as shown by Table 1.

The initial effect of the SBT can diminish over time. The results showed that seven of the criteria had higher average overall scores after one month than during the first two weeks after the SBT, indicating a reduction of the impact of the SBT across these criteria. The only criteria where the effect of the SBT did not diminish after four weeks was the senders’ ability to specify clear deadlines and the senders’ ability to write subject lines that enabled the recipient to gauge the importance of the message.

Table 1. Mean effect of SBT on how emails were evaluated within PD

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Before Training</th>
<th>After Training (Weeks 3 &amp; 4)</th>
<th>Diff</th>
<th>Significance from (2 tailed) t test</th>
</tr>
</thead>
<tbody>
<tr>
<td>The suitability of email as the communication medium</td>
<td>1.55</td>
<td>1.18</td>
<td>-0.38</td>
<td>0.017</td>
</tr>
<tr>
<td>The email is easy to read</td>
<td>1.56</td>
<td>1.46</td>
<td>-0.10</td>
<td>0.096</td>
</tr>
<tr>
<td>The email is straight to the point</td>
<td>1.59</td>
<td>1.29</td>
<td>-0.30</td>
<td>0.184</td>
</tr>
<tr>
<td>The relevance of the message to me</td>
<td>1.60</td>
<td>1.71</td>
<td>+0.11</td>
<td>0.741</td>
</tr>
<tr>
<td>If it is an actionable email:</td>
<td>1.83</td>
<td>1.65</td>
<td>-0.18</td>
<td>0.341</td>
</tr>
<tr>
<td>It tells me what is expected of me</td>
<td>2.36</td>
<td>1.87</td>
<td>-0.49</td>
<td>0.221</td>
</tr>
<tr>
<td>The subject line contains sufficient detail for Me to understand the importance of the message</td>
<td>2.26</td>
<td>2.17</td>
<td>-0.09</td>
<td>0.601</td>
</tr>
<tr>
<td>Me to understand what the message is about:</td>
<td>2.08</td>
<td>2.10</td>
<td>-0.02</td>
<td>0.973</td>
</tr>
<tr>
<td>Approx how long did it take to read and understand this message?(Seconds)</td>
<td>49.92</td>
<td>47.78</td>
<td>-2.14</td>
<td>0.491</td>
</tr>
</tbody>
</table>

Table 2. Mean effect of CBT on how emails were evaluated within PD

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Before Training</th>
<th>After Training (4 weeks)</th>
<th>Diff</th>
<th>Significance from (2 tailed) t test</th>
</tr>
</thead>
<tbody>
<tr>
<td>The suitability of email as the communication medium</td>
<td>1.34</td>
<td>1.05</td>
<td>-0.29</td>
<td>0.157</td>
</tr>
<tr>
<td>The email is easy to read</td>
<td>1.48</td>
<td>1.15</td>
<td>-0.33</td>
<td>0.081</td>
</tr>
<tr>
<td>The email is straight to the point</td>
<td>1.30</td>
<td>1.10</td>
<td>-0.20</td>
<td>0.101</td>
</tr>
<tr>
<td>The relevance of the message to me</td>
<td>1.48</td>
<td>1.35</td>
<td>-0.13</td>
<td>0.525</td>
</tr>
<tr>
<td>If it is an actionable email:</td>
<td>2.05</td>
<td>1.05</td>
<td>-1.00</td>
<td>0.047</td>
</tr>
<tr>
<td>It tells me what is expected of me</td>
<td>2.40</td>
<td>1.30</td>
<td>-1.10</td>
<td>0.028</td>
</tr>
<tr>
<td>The subject line contains sufficient detail for Me to assess the importance of the message</td>
<td>1.79</td>
<td>1.93</td>
<td>+0.15</td>
<td>0.600</td>
</tr>
<tr>
<td>Me to understand what the message is about:</td>
<td>1.81</td>
<td>1.63</td>
<td>+0.18</td>
<td>0.067</td>
</tr>
<tr>
<td>Approx how long did it take to read and understand this message?(Seconds)</td>
<td>43.49</td>
<td>27.00</td>
<td>+16.49</td>
<td>0.102</td>
</tr>
</tbody>
</table>

Table 3. Average for SBT and CBT within PD four weeks after training

<table>
<thead>
<tr>
<th>Criterion</th>
<th>4 weeks after SBT Training</th>
<th>4 weeks after combined training</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>The suitability of email as the communication medium</td>
<td>1.18</td>
<td>1.05</td>
<td>0.13</td>
</tr>
<tr>
<td>The email is easy to read</td>
<td>1.46</td>
<td>1.15</td>
<td>0.31</td>
</tr>
<tr>
<td>The email is straight to the point</td>
<td>1.29</td>
<td>1.10</td>
<td>0.19</td>
</tr>
<tr>
<td>The relevance of the message to me</td>
<td>1.71</td>
<td>1.34</td>
<td>0.36</td>
</tr>
<tr>
<td>If it is an actionable email:</td>
<td>1.65</td>
<td>1.00</td>
<td>0.65</td>
</tr>
<tr>
<td>It tells me what is expected of me</td>
<td>1.87</td>
<td>1.30</td>
<td>0.57</td>
</tr>
<tr>
<td>The subject line contains sufficient detail for Me to assess the importance of the message</td>
<td>1.70</td>
<td>1.93</td>
<td>0.23</td>
</tr>
<tr>
<td>Me to understand what the message is about:</td>
<td>1.65</td>
<td>1.63</td>
<td>0.02</td>
</tr>
<tr>
<td>Approx how long did it take to read and understand this message?(Seconds)</td>
<td>47.78</td>
<td>27.00</td>
<td>20.78</td>
</tr>
</tbody>
</table>

The initial impact of the combined training (SBT and CBT) resulted in improvements across eight of the nine evaluation criterions as shown by table 2. The only criterion not to show an initial overall improvement was the senders’ ability to write emails that are easy to read, despite this criterion showing significant improvements for the SBT at PD. Only one of the criteria showed a significant (at the 90% level) initial improvement. This was in the senders’ ability to write effective subject lines that enable the recipient to know what the message is about.

Six of these initial improvements in CBT had been sustained or had shown further improvement. The only criteria where the overall initial impact of the training had diminished were in the senders’ ability to choose the most suitable communication medium and their ability to write effective subject lines that convey the importance of the message and enable the recipient to know what the message is about.

The t-test analysis showed that four of the nine evaluation criterions showed significant improvements four weeks later for the CBT. The four significant improvements were:

• Better written emails that were easier to read (significant at the 90% level)
• Better written actionable emails that state what action is required of the recipient (significant at the 95% level)
• Better written actionable emails that clearly state any when action is required (significant at the 95% level)
• Better use of the subject line, which made it easier to know what the message is about (significant at the 90% level)

The significant finding from this research is that when comparing the impact of the combined training approach with a single SBT approach, the results from the PD study suggest that the impact of the combined approach is more sustainable than the SBT on its own as shown by Table 3.

CONCLUSION

While existing studies identified a number of problems with email use, this project sought to research the specific email problems within the PD organisation with the intention of reducing the highlighted defects. While the generalisability of this research is impossible due to the study being of one organisation, in the UK context, the findings are indicative, and suggest that there are many deficiencies with the way email is used within today’s organisations. Such defects relate to both the written quality and quantity of email received and the ineffective configuration of an organisation’s email systems and can increase the amount of time spent dealing with email and can lead to tasks being carried out incorrectly or not at all. Several important implications arise from the study, as outlined below.

First, the study has added to current theory on email management in organisations by providing numerous insights relating to email defects in companies, and their management by various types of training. Second, the findings demonstrate that SBT can improve employee use of email, although the initial impact of the training can diminish over time. The results highlight that the impact of SBT can vary on the specific areas of email use that are improved, with some criteria showing greater improvement than others. However interestingly, the combined training approach (seminar based and computer-based training) did produce improvements that were sustained. Further research is needed to better understand this finding. Second, the findings from this paper may help similar organisations to PD to become more effective in managing their email communication systems. It is recommended that organisations examine their current email communication policies and develop a “snapshot” of how their employees use email. Such information will provide an organisation with a useful foundation from which to build their training in order to increase their employee effectiveness by email education. If an organisation decides to deploy an email training programme, it is recommended that it not only focus on the sender side of how to write more effective emails, but also on the recipient side, for example training can be given on how a recipient can manage their inbox. It is also recommended that any training programme aimed at improving email use should also take into account other communication media used within the organisation, so that the effectiveness of communication in general can be improved.

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