

Isolating the Critical Components of Effective Feedback on a Data Entry Task

DOUGLAS A. JOHNSON

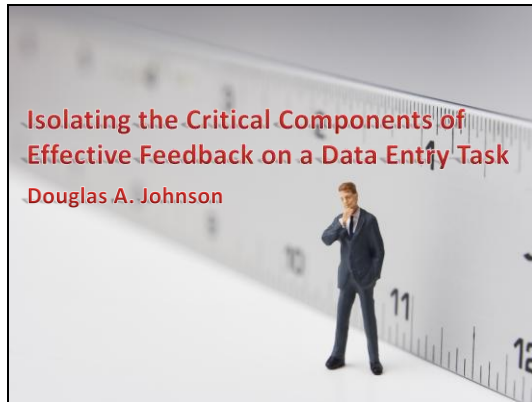
Operant-Tech Consulting, Western Michigan University

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- Performance feedback is among the most common interventions used for performance in the field of organizational behavior management (OBM)
- Problematic as feedback's definition
- Which components are crucial for successful implementation?

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- Most involve some component of evaluation and information about past performance
- Unknown which of those components are necessary for feedback to be maximally effective

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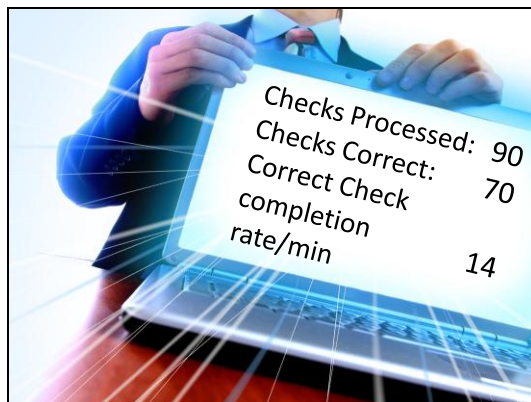


- Why objective feedback alone might not be enough
- Literature reviews: the effects of feedback are variable
- Implementation of feedback is quite different from study to study (broad term!)
- For example, Johnson, Dickinson, and Huitema examined computer-delivered objective feedback (i.e., specific information about past performance absent evaluation such as praise or criticism)
- Purpose: documenting the effect that performance feedback has on a monetary incentive system

Published in:

Johnson, D. A., Dickinson, A. M., & Huitema, B. E. (2008). The Effects of Objective Feedback on Performance When Individuals Receive Fixed and Individual Incentive Pay. *Performance Improvement Quarterly*, 20(3/4), 53-74.

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- Objective feedback in previous study
- On-screen display indicating the total number of checks completed correctly and current rate of check completion

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- Four experimental conditions:
- Individual monetary incentive without feedback
- Individual monetary incentive with in-session feedback
- Fixed pay without feedback
- Fixed pay with in-session feedback

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- Findings of previous study
- Significant improvement in performance when incentives used, relative to a fixed pay system
- Addition of feedback, however, resulted in no significant performance gains for participants, regardless of the pay system that was implemented
- One implication: numbers and data themselves that are not important
- Rather, it is what others say about those numbers and data that is important for altering performance
- These results led the authors to speculate that “some type of evaluative component may be necessary for feedback to enhance performance.” (p. 71)

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- Why objective feedback might not be needed at all
- Plausible that the evaluative component alone influenced performance
- Objective feedback might be an unnecessary superfluous component in the studies examining objective feedback combined with evaluation
- Determine whether specific information about past performance makes feedback more effective than just simple general appraisal of past performance

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- Why objective feedback might be needed
- For feedback to be effective it should detail specific information about performance
- Delivering reinforcement, it should be both specific and sincere
- Objective feedback may help with these delivery guidelines by demonstrating to the recipient of reinforcement that the supervisor is carefully paying attention to actual performance
- Not just blindly delivering insincere praise or approval (such as a manager saying "attaboy" to every employee seen, regardless of actual accomplishments)

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Let's see how the following measure up to one another:

- Objective feedback alone
- Evaluative feedback alone
- Objective feedback with evaluation
- No feedback



- Lack of component analysis research
- In order to disentangle the effects of the evaluative and objective components of feedback, the current study proposed to compare
 - Objective feedback alone,
 - Evaluative feedback alone,
 - Objective feedback with evaluation
 - No feedback conditions

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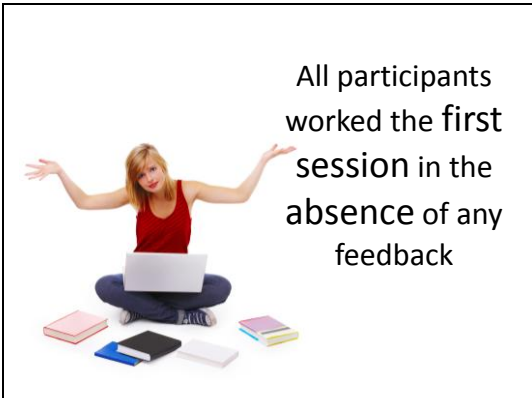
The boring experimental task



- 105 undergraduate university students
- One 45-minute pre-feedback session and three 45-minute experimental sessions
- The experimental task is a computerized data entry task

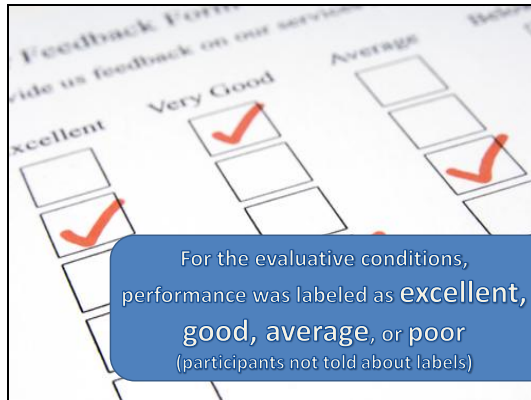
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All participants worked the first session in the absence of any feedback



- Pre-feedback session: obtain data for the covariate
- Gather information about performance to be used in the subsequent session's feedback

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- Performance labeled according to one of four values: excellent, good, average, or poor
- Participants not told about these labels or the criteria for these labels
- These values were determined using the standard deviation and average performance of individuals who did not receive incentives or feedback in a previous study using the same experimental task (Johnson, Dickinson, & Huitema, 2008)

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- A 2 X 2 factorial design was used, with participants randomly assigned to one of four experimental groups. Each group had 25-27 participants assigned to it
- Same general format as pre-feedback, except for the following differences relating to assignment to condition

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Evaluative feedback only

- "You've been completing *much more* than what the average person does!"
- "We appreciate how hard you've been working at this task."
- "You've been processing checks at a standard level of performance."
- "Unfortunately, you should know that you've been completing a low number of checks."



- Evaluative feedback only condition
- Randomly read one of forty evaluative statements about their previous session's performance
- No objective details about performance given

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Objective feedback only

- "During your previous session, you correctly completed ____ checks."



- Objective feedback only condition
- Participants read the following sentence in a neutral tone: "During your previous session, you correctly completed ____ checks."
- Experimenters provided no evaluation of performance, taking care to not to convey any body language that might be interpreted as approving or critical (i.e., smiling, frowning, nodding of head, etc)

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Evaluative and objective feedback

- "During your previous session, you correctly completed ____ checks. That's a *really* impressive number of checks!"
- "During your previous session, you correctly completed ____ checks. That's one of the better performances we've seen recently."
- "During your previous session, you correctly completed ____ checks. That's about what the average person does."
- "During your previous session, you correctly completed ____ checks. Unfortunately, that's considered a low number of checks."



- Evaluation and objective feedback condition
- Participants randomly read one of forty evaluative statements about their previous session's performance, include objective details on performance
- A variety of sentences used to decrease the possibility that participants will perceive the statements as rote and insincere
- The sentence read depended in part on whether their previous performance was categorized as "excellent", "good", "average", or "poor" (ten random sentences for each category).

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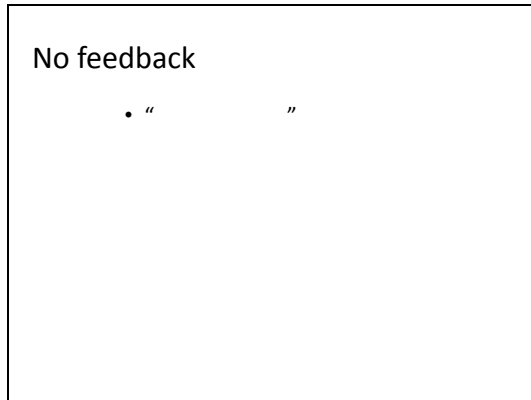
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- No feedback condition
- No further instructions or information about their performance provided

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- Raw results
- No feedback
- Initial performance: 670 checks
- Final performances: 647 checks (loss of 23 checks)
- Evaluation alone
- Initial performance: 657 checks
- Final performances: 742 checks (gain of 85 checks)
- Objective information alone
- Initial performance: 662 checks
- Final performances: 750 checks (gain of 88 checks)
- Objective information with evaluation
- Initial performance: 718 checks
- Final performances: 893 checks (gain of 175 checks)

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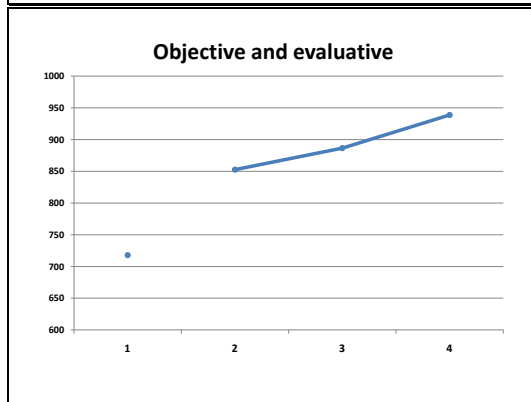
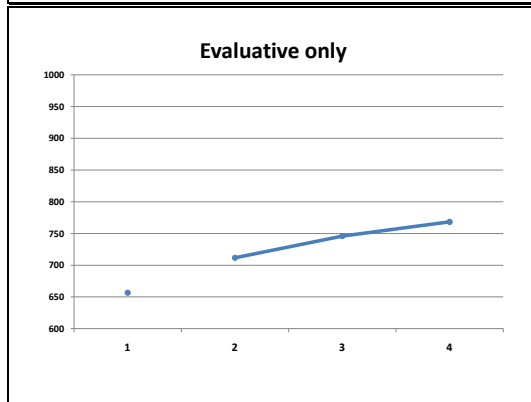
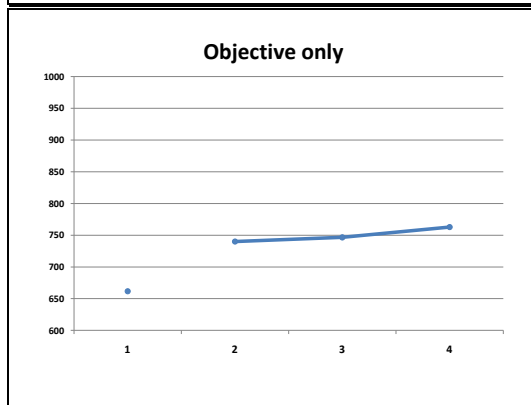
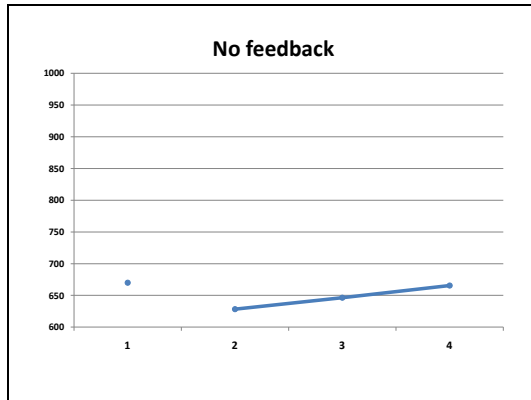
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•Visual inspection: Changes over time



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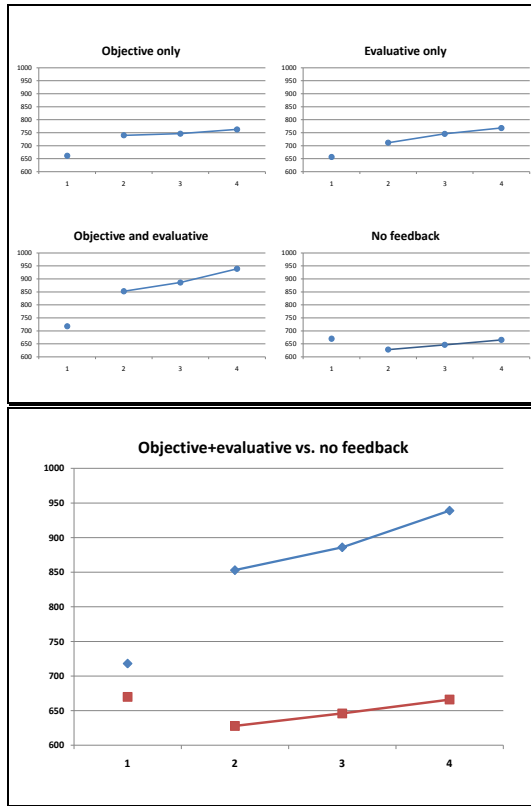
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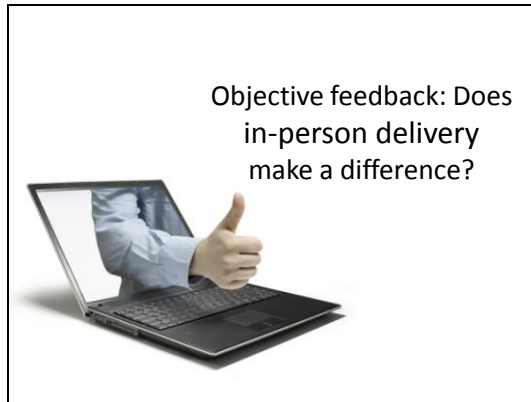
- Analysis
- Two-factor ANCOVA
- Adjusted means
- No feedback: 654 checks
- Evaluation alone: 763 checks
- Objective information alone: 766 checks
- Objective information with evaluation: 850 checks
- Evaluative and objective feedback compared with:
 - Evaluative only ($p = 0.029$)
 - Objective only ($p = 0.035$)
 - No feedback ($p = 0.000$)
- Evaluative feedback alone compared with:
 - Objective only ($p = 0.999$)
 - No feedback ($p = 0.004$)
- Objective alone compared with:
 - No feedback (0.003)
- Summary: Performance under evaluative and objective higher than all others to a statistically significant degree. Evaluative alone and objective alone both statistically higher than no feedback

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- Payoff
- Intervention that requires less than one minute of supervisor's time
- 17% increase in performance simply by adding either evaluation or objective information (delivered in person)
- 30% improvement in performance if you use both evaluation and objective information compared to no feedback

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- Conclusions
- Conflict with previous study showing no effect of objective only
- Computer-delivered vs. person delivered feedback (implied evaluation?)
- Employees have a history in which their supervisors have evaluated their performance (at least typically). Given that such an evaluation has, in the past, been correlated with contingent consequences (at least to some degree), even though the performance-reward contingency for the newly targeted performance may not be explicitly explained or stated, the supervisory feedback may “act much like a more formal change in an employees’ [sic] job description or contract. The overall impact is ‘to notify’ employees of the new or now to be enforced contingencies operating in the organization” (Prue & Fairbank, 1981, p. 12). This notification, of course, implies evaluation.

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- Does evaluative feedback enhance monetary incentives?
- Less specific feedback can be effective, as long as it is evaluative (although more specific works better)

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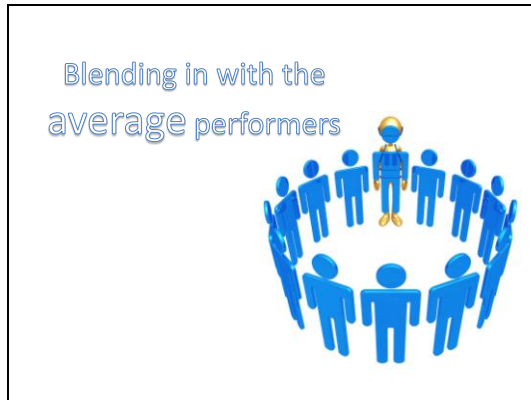
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- Normative influence?
- Punishment for being above or below (making everyone else look bad vs. dropping the ball)
- Social comparison

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