

Matt Randon
Mike Jacobs
EDIT705 - Summer 2014

The Use of Google Forms to Increase Efficiency in the Workplace

Problem & Background

Companies like the idea of teamwork. The professional development industry profits from marketing cohesion-building exercises as a way of boosting morale and creating unity in the workplace. For work related tasks, however, not as much thought is given to how to best structure a team of professionals for maximum productivity.

Lorica Strategic Consulting is a medium sized consulting company in Northern Virginia. They offer such services as IT security, IT Implementation, System Administration, Program Management, and Help Desk Services. A recent internal climate survey revealed an opportunity to increase team efficiency caused by personality difference in the team environment.

Gathering workforce analytics is a necessity for any business. Lorica uses Google Apps for Business as their enterprise email and apps suite. The Google Apps suite offers tools that can be used for data mining and analytics, as well as any other polling/survey need. This prototype will solve the problem of creating inefficient teams in the workplace by using Google apps to survey team members before groupings occur. This way, personality types, and in some respects skill sets, will be evenly distributed across teams in an automated process that will increase collaboration on projects by improving group dynamics.

The process begins with the results of an informal survey of 40 Lorica team members. The survey revealed that 32% of respondents were dissatisfied with their team and that 80% feel like their team could be more efficient. We then interview the management themselves to build our learner analysis.

Learner Analysis

Target Audience: Team leads, Managers
Sample Size: 10 managers, 40 team members
Strategy: In-House interviews of mid and upper level management
Online survey for team members

Questions for Management:

Do you feel that workforce teams could be more efficient? How?
Is there a problem with the current team building process? How?
What is the current process for team building?
What makes a team successful?
Are teams built around skill set only?
How much is team efficiency considered?
How much is team chemistry considered?

How familiar are you with Google Forms/Apps?

How familiar are you with Google Sheets/Excel?

Team Member survey:

Likert scale questions - 1 - 5

How effective is your team? Ineffective - Very Effective

Could your team be more efficient? Strongly Disagree - Strongly Agree

Do you like the people on your team? SD - SA

I feel that every member of my team is essential. SD - SA

I feel like my time is used wisely in the team. SD - SA

Learner Analysis Results

Information Category	Data Sources	Learner Characteristics
Entry Behaviors	Managerial Interview	Managers should be open to reflection on best practices. While they may not have the technical ability associated with the Google Apps suite, they should be open to change and confident in their ability to adapt new software.
Prior Knowledge	Managerial Interview	No prior knowledge required. Some managers have undergone training regarding team management, but using this training is too time consuming and therefore no tangible change in the workplace has occurred.
Attitudes toward content	Managerial Interview	Those already familiar with the Google Apps Suite will require minimal training. Others want to use their knowledge that they have gained in previous professional development sessions, and they see Google Forms as the answer to being able to efficiently create effective teams.
Motivation for instruction	Managerial Interview	Managers are motivated to learn these new methods of producing effective teams because the teamwork of those they manage is directly tied to their success and evaluations within the office.
Attitudes toward training	Managerial Interview	Training will be implemented internally by Office of Personnel Training.
Education and ability	Managerial Interview	Managers hold at least a Bachelor's Degree in various fields, and some with Master's degrees completed. Their level of comfort with new software varies greatly depending on the field of study in college.
General learning preferences	Managerial Interview	Managers are busy, and so therefore prefer a learning style that is self-directed and self-paced. Many would like to be able to use the class to build a working prototype that they can use at work.
General group characteristics	Managerial Interview	10 Managers interviewed Ages 25 - 63 Male: 60% Female: 40%

Context Analysis

Orienting Context

The learner analysis suggests that these are mid-career, mid-level and upper-level management. Initially this training will be offered as a pilot with voluntary participation. Learners will have the opportunity to explore new data gathering tools plus strategic team building techniques. Since this is an experimental initiative, volunteers will be asked to maintain usage of the DISC profile system and team building until the time of the formative two-month evaluation.

Instructional Context

- Classroom instruction
- Face-to-face
- No more than 20 students per session, expecting between five and 10 per session.
- Material Needed:
 - Podium PC with Instructor Display and Internet
 - Classroom PC's with Internet
 - Completed DISC form shared with class participants - View Permissions only
 - Job Aid detailing good and bad personality combinations for later use

Transfer Context

The transfer of knowledge will be three-fold. It is expected that trainees will immediately apply the knowledge of Google Apps and DISC assessment explicitly taught in the course. This means that trainees should be able to demonstrate a knowledge of how to deploy the Google Form to their team, analyze the results, and create teams based on the DISC profile data.

The last way in which transfer will occur is through a brief demonstration as to the power of using Google Forms and Sheets to automatically calculate data to speed up daily work tasks. Given the education of the trainees, it is expected that they be able to apply the basic knowledge gained in the course and modify to suit their needs once training has concluded.

Task Analysis

The managerial staff at Lorica Strategic Consulting has a varied comfort level with complex computer tasks, but the overall expectation is that their proficiency is high enough to take basic computer instruction and apply those concepts at a higher level. It is in this way that the following task analysis does two things: first, it teaches the managers at Lorica Strategic Consulting to use Google Forms and Google Sheets to collect data and automatically calculate findings, and secondly, trainees learn about personality assessment for effective teaming as a context for studying the Google Apps suite.

By giving trainees a secondary task to learn, other than the basic computer web application instruction, the module attempts to keep all computer proficiency levels engaged in learning, whether it be Forms and Sheets primarily, or DISC personality assessment, or both.

It is the goal of this module that the trainees see value not only in how to use Google Forms and Sheets to provide more effective teaming, but that trainees are able to move away from this specific backdrop of personality assessment and apply this knowledge elsewhere. That trainees may use these two application in tandem to solve any problem that may arise in the workplace that might require data collection and automated calculation.

We will serve as the SME's for the google form creation and manipulation, but detailed instructions from Google can be found at <https://support.google.com/docs/answer/87809?hl=en>. The DISC team building process can be found at <http://www.discmastery.com/research/DemystifyingDISCCompatibility.htm>. Profile descriptions can be found at <http://changingminds.org/explanations/preferences/disc.htm> and detailed DISC profile information can be found at <http://www.axiomsoftware.com/disc/interpretations/disc-interpretation-high-d-i.php>.

Creating the Form Document

In order for employees to easily and quickly take the DISC assessment, managers must first create the form that will automatically calculate personality type.

- I. Log in to Google Drive.
 - A. Go to google.com - click 'sign in' in the upper right corner
 - B. Enter username and password
 - C. Once logged in, click on the 3 x 3 grid icon next to your picture in the upper right corner. When the menu drops down click 'Drive'
- II. Click on "Create" in the upper left and select "Form" from the document menu options.
 - A. Title the document.
 - B. Choose an appropriate theme for the form and click "OK."
 - C. Create the questions.
 - Label the question appropriately in the "Question Title" field. Suggested: Question 1, 2, 3, etc...
 - Leave "Help Text" blank.
 - Select "Grid" from the "Question Type" drop down box.
 - Enter the Row labels.
 - a) Type "Expressive" in the field for "Row 1."
 - b) Type "Compliant" in the field for "Row 2."
 - c) Type "Forceful" in the field for "Row 3."
 - d) Type "Restrained" in the field for "Row 4."
 - Enter the Column labels.
 - a) Type "Most" in the field for "Column 1."
 - b) Type "Least" in the field for "Column 2."
 - Click the check box for "Required Question."
 - Click "Done" when done editing the question options to create the question.
 - Click "Add Item" to create the question.
 - Hover of the question that was created.
 - a) Click on "Duplicate" in the upper right corner to duplicate the question settings.
 - b) Repeat steps C1-C7 for the rest of the DISC personality questions.
 - Click "Add Item" to create the "Name" identifier field.
 - a) Label the question as "Name."
 - b) Select "Text" from the "Question Type" drop down box.
 - c) Click "Done" when done editing the question options to create the name identifier field.
 - D. Click "Send Form" at the bottom of the page to complete form.

Viewing Results in Google Sheets

To view responses, users must link their form with a results spreadsheet that will automatically fill with data as employees fill out the DISC personality assessment.

- III. Click on “Choose Response Destination” in the top navigation bar.
 - A. Select the “New spreadsheet” radio button.
 - Title the new spreadsheet appropriately.
 - Click “Create” to link the form to the spreadsheet automatically.
 - B. Navigate back to the newly create form.
 - Click on “View Responses” in the top navigation bar.
 - View the new spreadsheet to ensure that columns from the newly created form were created in the responses spreadsheet.

Adding Analysis Columns to Results/Sheets Document

In order to aggregate the form data, it must be converted to numbers and added together. For that, we must add custom columns to the spreadsheet after the auto-generated results populate with data.

- IV. Add new columns to analyze responses data.
 - A. Scroll to the right of the spreadsheet and on the last column right-click on the top of the column and select “Insert 1 right” to insert a new column.
 - B. Label the new cell in Row 1 “Personality Type.”

Creating Formulas for Analysis of Results

To save time, the spreadsheet formulas necessary for calculating personality type based on the form created above have been provided in training materials.

- V. Highlight row 2 in the “Personality Type” column, and select the Formula bar above the spreadsheet (marked with a Fx).
 - A. Copy and Paste the Personality Type formula to calculate the personality for the results row:
 - B. `=IF(AND(CV2>CY2,CV2>DB2,CY2>DE2),"D",IF(AND(CY2>CV2,CY2>DB2,CY2>DE2),"I",IF(AND(DB2>CV2,DB2>CY2,DB2>DE2),"S",IF(AND(DE2>CV2,DE2>CY2,DE2>DB2),"C"))))`

Sharing Documents within the Google Environment

Any Google doc, form, sheet, presentation, or file can be shared with another google user via Google Drive. If you try to share a doc with a non-google user, an email notification will be sent to them.

- VI. Share Button
 - A. click on the blue share button (if available)
 - B. Add the usernames or email addresses (if they are non-google users) of your collaborators in the pop up box
 - C. IMPORTANT: designate whether your collaborators have edit or view only rights
- VII. Sharing via the Google File Management menu
 - A. Under the title of any google doc is the file management menu. Click ‘File’
 - B. Depending on the type of document you can either click ‘Share’ or ‘Add Collaborators’

- C. Add the usernames or email addresses (if they are non-google users) of your collaborators in the pop up box
- D. IMPORTANT: designate whether your collaborators have edit or view only rights

Deploy the DISC Survey

- VIII. From the Google Sheet
 - A. In the google sub menu, click 'Form > Go to live form'
 - B. Copy/paste the url into a doc or email
- IX. From the Editable Form
 - A. Click the blue send form button in the top right corner
 - B. Add names or emails of recipients
 - or-
 - C. click the 'view live form' button in the toolbar under the sub menu
 - D. Copy/paste the url into a doc or email

Creating Groups from the Results

- X. Analyze the results automatically calculated in the "Personality Types" column.
 - A. Sort employees into four person groups.
 - B. Ideally, each group should contain a D, I, S, and C personality type for maximum effectiveness.
 - C. D - Dominance
I - Influence
S - Steadiness
C - Conscientiousness
 - D. Since all four types will rarely be available, certain profiles work better together than others in **task centric** and **social** situations. The pairings are different for task oriented teams vs. social relationships. These pairings are designed for **task centric** situations:

Naturally Harmonious

- C + S
- I + S
- D + S

Moderately Harmonious

- C + C
- S + S
- I + C

Least Harmonious

- D + D
- D + I
- D + C
- I + I

- E. Profile Characteristics
 - Dominance** - Independent, persistent, direct. Energetic, busy, fearless. Focus on own goals rather than people. Tell rather than ask. Ask 'What?'

Influence - Social, persuasive, friendly. Energetic, busy, optimistic, distractible. Imaginative, focus on the new and future. Poor time managers. Focused on people than tasks. Tell rather than ask. Ask 'Who?'

Steadiness - Consistent, like stability. Accommodating, peace-seeking. Like helping and supporting others. Good listeners and counselors. Close relationships with few friends. Ask, rather than tell. Ask 'How?' and 'When?'

Conscientiousness - Slow and critical thinker, perfectionist. Logical, fact-based, organized, follows rules. Don't show feelings. Private. Few, but good friends. Big-picture, outlines. Ask 'Why?' and 'How?'

Instructional Objectives

After completing this module, students will be able to:

1. Create Google Forms to deploy questionnaires to the company
 - a. Build the form for the DISC questionnaire
 - b. Build a form for any data gathering task
2. Customize Google Sheets to make automatic calculations based on employee feedback
 - a. Analyze and manipulate form data to determine personality types based on DISC methodology
 - b. Add appropriate rows and columns in the sheet
 - c. Use simple formulas to aggregate form data into DISC categorization
3. Administer a basic DISC personality assessment.
 - a. Deploy the form through email or Sharing through Google
 - b. Add collaborators if necessary
4. Evaluate the results of employee DISC assessment polls.
5. Create effective teams based on the data obtained from employees.
 - a. Demonstrate understanding of the four DISC personality types.
 - b. Make effective pairings of personality types using DISC recommendations.
 - c. Copy the DISC template for their own use.

Instructional Approaches

This instruction is ultimately intended for face-to-face learning, but can be easily adapted and taught through a website or video modules/website. For the procedural section of the instruction we will use a tell/show/do method reminiscent of Gagne's Nine Events. As part of the instruction, a completed DISC form will be shared with all students. They will learn first how to build a form for any purpose, then use the fabricated form to implement the DISC questionnaire. In the future application portion of the module, the trainees will be shown the basics of form creation for future endeavors, and the instructors will help to facilitate thinking about the possibilities of using the Google Apps suite outside of the class. This is an important step for adult learners to think of themselves as autonomous learners with the ability to modify and apply the lessons learned once back in the office after the training.

Materials Needed:

- Podium PC with Instructor Display and Internet
- Classroom PC's with Internet
- Completed DISC form shared with class participants - View Permissions only

- Job Aid detailing good and bad personality combinations for later use

Form Building

Section	Activity	Time
Opening	<p>Opening:</p> <ul style="list-style-type: none"> • Introductions/Agenda <p>Instruction:</p> <ul style="list-style-type: none"> • Explain data gathering opportunities made possible with Google forms. • Quickly Demonstrate the front and back ends of the form process. • Explain the DISC method of personality testing. 	2:00
Form Creation	<p>Demonstrate:</p> <ul style="list-style-type: none"> • Login process • Location of Google Drive • Create a new form <p>Activity:</p> <ul style="list-style-type: none"> • Students Login to Google Drive • Create a new form 	5:00
Form Tools	<p>Demonstrate:</p> <ul style="list-style-type: none"> • This demo will be a quick age group survey. It will demonstrate three of the question types. • Title the form • Add Three questions: <p>Question 1: Type: Text Title: Name Options: n/a</p> <p>Question 2: Type: Multiple Choice Title: How old are you? Options: 10 - 20, 21 - 30, 31 - 40, 41 - 50, 51+</p> <p>Question 3: Type: Choose from a list Title: Sex Options: Male, Female</p> <p>Go to the live form and complete the survey once.</p> <p>Activity:</p> <ul style="list-style-type: none"> • Students will make their own three question survey. The questions can be student driven. Encourage them to use 	7:00

	question types not covered in the demonstration. Have them complete their survey once.	
Google Sheet	<p>Demonstrate:</p> <ul style="list-style-type: none"> Return to Google Drive. Open accompanying spreadsheet showing the recently added data from the form. 	1:00
Sharing & Collaboration	<p>Demonstrate:</p> <ul style="list-style-type: none"> This section will illustrate the live collaboration capabilities of Google Apps. Pair up the students and have them exchange Google usernames. Pick a student with which to share the demo survey. Share it with edit permissions, but explain view permissions as well. Have the student open the form and add an image to the form. The rest of the class will see that the demo form is being edited by the student. Explain that any Google Doc or file can be shared. Any Google Doc/Form/Sheet/Presentation can be co-edited live. <p>Activity:</p> <ul style="list-style-type: none"> Student pairs will share their forms with each other and live edit each other's forms. 	6:00
Deployment	<p>Demonstrate:</p> <ul style="list-style-type: none"> Three Deployment Methods: <ul style="list-style-type: none"> From the Google Sheet From the Editable Form via 'Send' button From Live Form URL <p>Activity:</p> <ul style="list-style-type: none"> Students will deploy their surveys to the instructor. 	5:00
Future Application	<p>Demonstrate:</p> <ul style="list-style-type: none"> Model for students some of the other basic formulas included in Google Sheets. Show students how to insert SUM, AVERAGE, MAX, MIN, COUNT formulas and create calculated columns. <p>Activity:</p> <ul style="list-style-type: none"> Discuss possible applications for creating auto-calculating forms within the company. Possible discussion topics: <ul style="list-style-type: none"> Gathering information before meetings Post-meeting feedback Team budget reports Create a Form and Sheet combination that can automate an otherwise tedious management task for use with 	30:00

	team. Culminating activity will be student-driven, as the problems they solve will vary greatly.	
--	--	--

DISC

Section	Activity	Time
Overview	<p>Demonstrate:</p> <ul style="list-style-type: none"> • Give a brief overview of the DISC method, explaining what each letter means, and how the letters can be grouped together to create effective teams. • Explain that the data to classify personality types will be gathered via Google Form. • Inform students that the DISC form has already been shared with them. • Open the form and explain the use of the Grid question type. • Open the spreadsheet. • Explain the columns and formulas that were added to determine DISC classification. <p>Activity:</p> <ul style="list-style-type: none"> • Have each student complete the DISC survey 	15:00
Analysis	<p>Demonstrate:</p> <ul style="list-style-type: none"> • The spreadsheet should now be populated with the data from the classroom. <p>Activity:</p> <ul style="list-style-type: none"> • Students will open the DISC spreadsheet and locate their letter. • Informally ask which personality type the students were identified as. • Explain each personality type and their characteristics. Facilitate discussion about how these characteristics could alter teamwork in a corporate environment. 	15:00
Team Building	<p>Demonstrate:</p> <ul style="list-style-type: none"> • Using the Job Aid explain the combinations of personality types when all four are not available. • Explain how technical skill sets trump DISC pairings (i.e if the company only has one Java expert, that person will be on a team requiring that skill set regardless of DISC pairing.) 	10:00
Future Use	<p>Demonstrate:</p> <ul style="list-style-type: none"> • Clear the spreadsheet data. • Explain this spreadsheet/form is the template. They may copy it for their own testing needs. 	2:00

	<ul style="list-style-type: none"> • Create a copy of the sheet/form. <p>Activity:</p> <ul style="list-style-type: none"> • Students will copy the template to their own Google Drives. 	
--	---	--

Evaluation

Evaluation for the module will focus on classroom observation by the instructor for the rote Google Forms and Sheets portion of the class. The instructor will be able to see that the trainees are developing the form and spreadsheet alongside the instructor model, and if they are not, help will be provided.

The DISC assessments will have a much longer evaluation timeline, as the results of this portion of the training will only be able to be assessed in the long term. Not much is assessed in the course because the DISC materials are pre-packaged for the trainees, but the trainees will be asked comment on their experience after new teams have been established using the new ruleset.

Evaluation Level	Assessment Type	Evaluation Strategy
Level 1	Overall	Trainees will be asked to fill out a feedback form about the overall effectiveness of the training.
Level 2	Formative	The instructor will circulate the room while going through the model and observe the newly acquired skills being performed. If they are able to follow the instructor, then they are demonstrating the capability to move on to the next phase of training.
Level 2	Summative	Using their knowledge gained so far, trainees will then work on their own project where they demonstrate the skills acquired by creating a Google Form and Sheet combination with the expectation that they will solve a problem from their daily work duties. Once completed, the trainer will circulate and test the basic functionality of each to determine competency with the Google apps.
Level 2	Formative	Trainees will discuss with the instructor the different types of DISC personality types, and their positive and negative effects on group consistency and cohesion.
Level 3	Confirmative	Two months later, when back in their normal work role as managers, the trainees will be asked to fill out a survey as to whether or not they have changed team makeup according to the DISC prototype, and if these changes have been beneficial for overall teamwork in their division.

		Trainees will then be asked if the DISC training has changed the way they will construct teams in the future.
Level 4	Confirmative	<p>Four months after training, the trainees will meet for a quick thirty minute seminar where an instructor will facilitate discussion on the different ways each manager has implemented the use of Google Forms and Sheets to speed up repetitive work activities.</p> <p>The trainees will share their own experiences and provide final insight as to the power of using Google apps to collect and calculate data.</p>

To Do:

DISC data sources in task analysis - Done

Context analysis - Done

Include confirmative evaluation - Done

Future applications explanation - Done

Feedback from Heather:

A tremendous amount of work has gone into documenting the creation of a Google form. My first instinct is that there are so many steps for a manager to do this that adoption will be impeded. Is there a feasible way to create a form template that gets copied by the manager instead of having to create the form from scratch each time? - **Fixed, template created**

To give more validity to the use of DISC, do you have results from other workplaces who have used this successfully? Are there other surveys that should be instituted, for example a survey that is administered to a team at the end of a project (much like is often done with required group work in courses-- where each member rates the performance of others on the project and talks about the contribution of each member). I have to say that as a manager I haven't thought about doing that. Another challenge with choosing groups based on a range of styles as you have noted is that sometimes, especially if it's a technical project-- you just need someone who has xyz skill and you just need to pair them with person who has abc skill because those are the only two with those skills. If I were the manager interpreting the use of the form, is there a way for me to factor in specialized knowledge?

Back to the issue of how complicated it is to set up a form, what leadership buy-in is there for this project? Who is going to require that this process take place when forming teams?

