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Secondary Mathematics Teacher Recruitment Campaign Module 3: Research

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Module 3: Research

Knowing what you know and knowing what you don't know are equally important parts of any campaign.

This module discusses the importance of research in a teacher recruitment campaign steps the reader through basic communications research to assist in campaign plans. Research helps identify message points and tactics that can be used to disseminate needed information.

As found in the text book THINK PR 2013 by Wilcox and defined by Stacks (2010) in his *Primer of Public Relations Research, (2nd ed.)*: “Research is essential to any public relations activity of campaign...research is the beginning of the process that seeks to bring about a specific objective.”

For campaign planning purposes and described in Module 2, public relations scholars divide research into fact finding, secondary and primary research.

Looking at the research process in segments, campaign research should include the following components:

- Initial Fact Finding
- Secondary Research
 - Methodology
- Targeted Fact Finding (Primary Research)
 - Qualitative Research
 - Quantitative Research
- Evaluation
 - Data Acquisition
 - Data Review
 - Conclusions
 - Research Limitations
 - Recommendations

To explain campaign research more fully, this module is divided into three parts:

[Section 3.1: General Research Overview, Initial Fact-finding and Secondary Research](#)

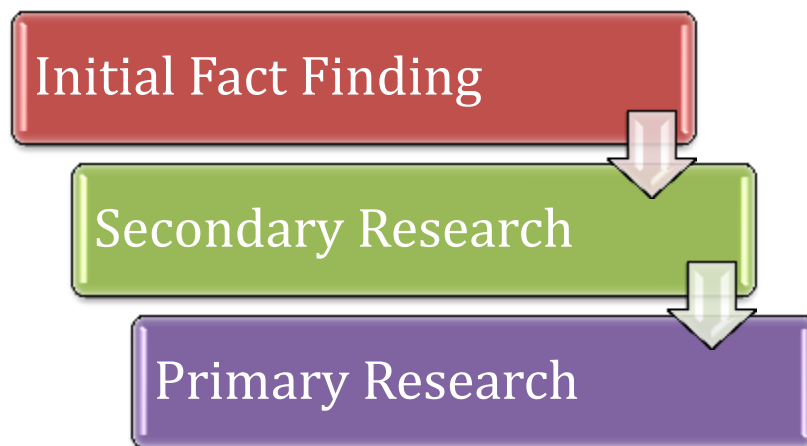
[Section 3.2: Introduction to Primary Research](#)

[Section 3.3: Data Acquisition/Research Evaluation](#)

Section 3.1: General Research Overview, Initial Fact-finding and Secondary Research

What constitutes good research? As discussed in Module 2, research is a critical component of every communications campaign. Good research is based on specific questions that rule out or rule in various findings or provide evidence supporting or rejecting conjectures. The goal of good research is to help investigators “know what they know” and “know what they need to know.”

The campaign research process is illustrated in the diagram below.



Initial fact finding. A good starting point for initial fact-finding is a general information audit. This initiative serves as precursor to follow on work. Fact-finding is less structured, less formal, and broader in terms of reviewing existing information, but it helps shape the follow-on process of secondary research.

Some examples of initial fact-finding might include a cursory review of past recruiting campaigns, comments and thoughts from colleagues on their recruiting successes (and failures), and even anecdotal questions to current, successful mathematics teachers regarding their motivations to become a teacher. Gathering information from current and past students about recruitment is also beneficial.

Secondary research. More deliberate than fact-finding but perhaps less rigorous than primary research, secondary research is extremely useful for focusing the scope of the primary research investigations. Secondary research will have a strong impact on what primary research questions are asked and what conjectures or hypotheses are eventually formed.

Some examples of secondary research include:

1. Finding and reviewing existing case studies of other successful recruiting campaigns or other research providing insights into the recruiting target audience(s).

2. A literature review of academic papers discussing STEM and/or mathematics teacher recruitment campaigns.
3. A review of other mathematics recruiting materials.

In the case of mathematics or STEM teacher recruitment, there is an abundance of literature available covering a broad scope of topics related to recruiting campaigns. The information covers multiple areas of concentration and can specifically detail what motivates potential students and others to consider mathematics or STEM teaching careers. Some of the current research findings are listed in a [Recruitment Literature](#) document available by clicking [here](#).

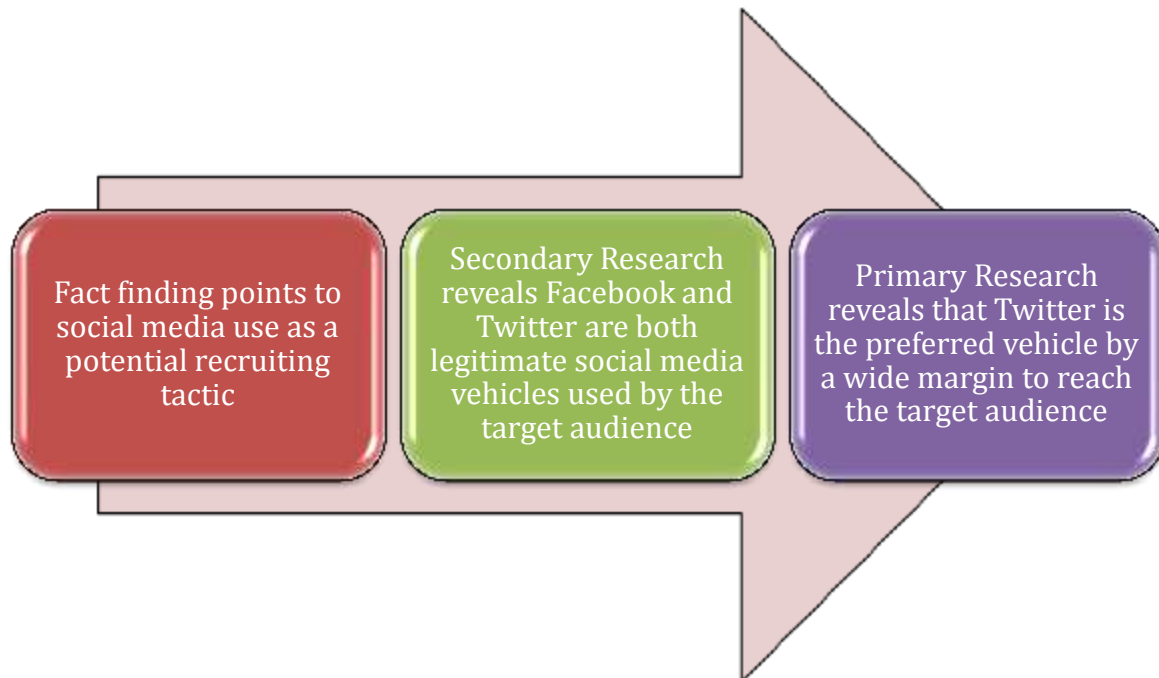
Section 3.2: Introduction to Primary Research

Primary research is conducted once fact-finding and secondary research are completed. Primary research can be either qualitative or quantitative in nature. The aim of primary research is to discover specific opinions, attitudes and facts that have an impact on messaging. Primary research can be described as knowing what you need to know.

Primary research is conducted by the practitioner/investigator as part of her or his campaign.

The diagram below illustrates how the three phases of research work together to solve a recruitment campaign question: **“Is social media something we should consider as a recruiting tactic?”** By adopting this approach, the researcher can consider specific details like: Is Facebook or Twitter a more effective social media tactic to reach students?

Primary research can also be used to approach broader topics like: What is more important to returning students, fast tracking their graduation or additional financial aid?



Types of primary research. There are two widely recognized types of primary research—qualitative and quantitative. Qualitative research is the use of questions and techniques to find the why of certain phenomena.

Why people makes decisions, how they feel, what they look for, etc. are all data points that can be captured from qualitative study.

Some of the most popular examples of qualitative data gathering for recruiting campaigns are focus groups and the focused interview. Because the number of respondents is small in these research formats, databases from those interviews are normally not sufficiently diverse or robust to offer predictive value. They are, however, valuable tools to help shape the types of questions asked in a follow-on quantitative exploration. Below are some recommended tips for organizing and administering successful focus groups.

Key Focus Group Points

- **Optimal number for a focus group is 8-12 members.**
- **Optimal time for a focus group is 90-120 minutes.**
- **Optimal number of focus groups is 3-5 groups per issue.**
- **Moderators and observers are strongly recommended.**
- **Common concerns of focus groups should be addressed via an Institutional Review Board (IRB) application.**
- **All members of a focus group should be encouraged to speak freely.**
- **Incentives for a focus group should be presented at completion.**
- **Use of an itinerary to stay on task is strongly encouraged.**

In contrast, quantitative research often answers the how, when, and where of the question.

In terms of primary research, fact-finding should also be entertained for the purposes of better planning and greater tactical execution. For example, an in-depth, granular review of available media channels in a specific geographic area, for instance, may be beneficial to a campaign. Similarly, a survey of likely spokespersons and media personalities could help focus attention on mathematics teaching opportunities to the local publics. These functions could easily be conducted by local agencies, provided via some paid media salespersons, obtained through conversations with local chapters of professional communications organizations like PRSA, IABC, etc.

In short, primary research is the customization element necessary to further target general campaign efforts. Best practices for campaign research are best described as mixed methods or combined pursuit of both quantitative and qualitative research.

Some of the more popular quantitative research tools used in recruiting campaigns include:

- The online survey,
- The one-on-one interview,
- The e-mail survey, and
- The direct mail survey.

As capabilities and digital preference grows, the proliferations of online surveys have also grown considerably as a primary research tool.

Resources for designing and implementing an online survey include:

- Qualtrics online survey services: <http://www.qualtrics.com/>
- Survey Monkey: <http://www.surveymonkey.com>
- Amplitude Research Surveys: <http://www.amplitudersearch.com/>

Important: As it pertains to free versus paid survey tools, most survey programs offer some free services but also have some form of limitations. For example, Survey Monkey puts a limit on the number of questions one can ask and the number of results it will deliver before they charge for use. Qualtrics charges a membership fee for use of their platform. So before an investigator decides on a specific tool, it is best to explore all related expenses.

Section 3.3: Data Acquisition

Finding a research sample. Once the survey is designed, the next step is generating an audience to poll. Following the lowest cost, highest return model, convenience samples are often used to verify certain assumptions or generate additional information. Often setting up on-campus booths, visiting classes, etc. can provide for some quick results, although the biased nature of a convenience sample

can serve to compromise the integrity and generalizability of those types of research techniques. Other fast but similarly questionable survey sampling techniques include snowball sampling and man-on-the-street intercept surveys.

A snowball sampling is the self-referral of some research subjects to other potential research subjects (e.g., a student answers a survey and forwards the survey to other friends on Facebook).

A man-on-the-street survey is when a researcher goes out with a clipboard to stop people on the street and ask them questions. The downside of this approach is there are lots of ways for researchers to inadvertently corrupt the process by choosing people who are more friendly, more attractive or more like them (e.g., a white, 50ish researcher goes to a shopping mall and interviews fellow middle agers who are in the same stage of life, the same socio-economic group, etc.).

In the digital/social media realm, the equivalent of these types of non-random surveys might include a Facebook poll or some Google analytics tracking.

To improve the efficacy of a sampling pool, there are also opportunities to buy certain lists for either direct mail or e-mail surveys, something very useful if recruiting from a wide demographic or geographic scale of potential respondents.

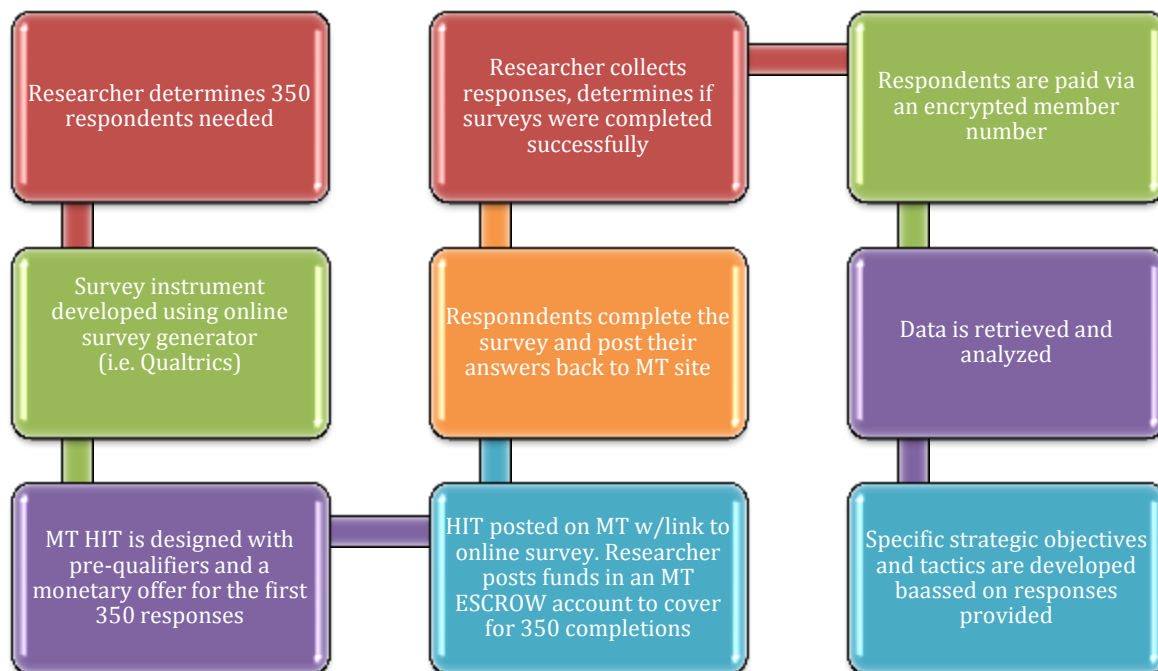
In addition, a recently developed source for finding selections of readily available survey takers is the online survey tool Mechanical Turk (MT at <https://www.mturk.com/mturk/>). Owned by online retailer Amazon and following a pay-for-play format, MT is capable of incorporating survey generators like Qualtrics, Survey Monkey, and others into their solution.



Mechanical Turk specializes in delivering targeted audiences with rapid results. Investigators pay for each completed survey up to a pre-determined limit and can control the number of respondents as well as the quality of work. Participants/respondents are allowed to scroll through thousands of HITS, (Human Intelligence Tasks) to find the ones they qualify for. Once a survey taker completes a HIT, it is saved for the investigator to recover and review.

Only after verifying that the respondent fulfilled the requirement of the HIT will the respondent get paid. Survey takers are paid anywhere from 25 cents to \$15 for completing a survey, depending upon the qualifications of the desired survey taker, the time it takes to complete the survey and the turnaround time on the HIT. Obviously the more highly paid the HIT, the faster the surveys are completed.

The following diagram explains the Mechanical Turk process.



For example, if a researcher needed 350 respondents who have recently changed careers in the greater Dallas area, the survey could be designed to pre-screen for those specific demographics and psychographics.

A HIT would then be generated including a link to the survey. The survey would be completed by self-reporting individuals who match the description. The responses would then be uploaded into a file for the researcher to review and final payment to the HIT respondents. Researchers are rated by the participants on various factors like how soon it took to get paid, whether the projected time to complete the survey was accurately, etc.

Researchers with poor respondent ratings may be asked not to post additional surveys in the future.

In addition, with MT, respondents do not get paid for filling out the survey until their work has been approved. Because it is a threshold survey arrangement, in this example only the first 350 respondents who complete the survey will get paid, so it is incumbent upon responders to fill out the survey quickly.

In addition to Mechanical Turk, there are other data base generators available to researchers.

The links below are useful for finding other survey respondents.

- Qualtrics online survey services: <http://www.qualtrics.com/>
- Amplitude Research Surveys: <http://www.amplituderesearch.com>

Data review: Initial facts for mathematics teacher recruiting. Once a database is recovered, the data can be imported into SAS or SPSS for sophisticated analysis or into Excel for basic data analysis.

As in any campaign, to maximize its effectiveness, key data points must be addressed or incorporated into future communications to ensure a strong impact.

Just as in Module 2, it is important to acknowledge that not all audiences will respond the same way to surveys or to messaging. In communications studies in particular, context and perceived position are critical factors in determining how a message is received.

Therefore, when preparing to launch a survey or when analyzing data, it is critical to account for and review whether a message is appropriate for an age group, a gender, a set of life experiences, ultimate life goals, etc.

However, based on review of current research literature, there are some universal conclusions of limited scope that can be incorporated in mathematics teacher recruitment. Some are listed below.

- **There is a need to rebrand the occupation of teaching as more cool.**
- **An appeal to altruism for students and future teachers to make a difference is very often a driver for career change.**
- **A discussion of the opportunity to receive help financially for completing a teacher preparation program or pursuing a degree in teaching.**
- **A discussion of job security and financial gain.**
- **A series of examples of collegiality and support for those interested in becoming a teacher.**

Secondary research: Initial conclusions in mathematics teacher recruitment. In an effort to encourage additional original research and as a way of providing some conclusions for future exploration, a summary of existing research is provided below:

- A successful mathematics teacher recruitment campaign discovers, informs and provides persuasive messaging toward becoming a mathematics teacher. Recruitment campaigns could target a diverse selection of audiences including:

- High school students and their parents/guardians.
- College students of various majors. Of particular interest are collegians who initially wanted to major in the hard sciences and ultimately work with people like RN or MD students but who may have realized they are not sufficiently interested in the traditional job common with that profession or perhaps they possess certain skill sets better suited for teaching.
- Goal reaching non-traditional students contemplating a career change or feeling a desire to pursue new opportunities in teaching STEM students.
- Based on the existing research, some implications for a successful mathematics teacher recruiting campaign include:
 - An appeal to women (as the profession attracts a much higher percentage of this group) (Mistook R. 2014),
 - An appeal to minorities (as there is a greater need for minority teachers), and
 - An outreach to non-traditional or returning students as many of these individuals are similarly attracted to the opportunities offered in being a STEM teacher.
- In addition to demographics and image, there is also a large need for accurate information. Those needs include:
 - The need to educate prospective students about the variety of options for obtaining a degree including:
 - Non-traditional degree programs appealing to professionals interested in a career change.
 - Critical needs programs for demographic groups where more teachers of those under-represented minorities are desired.

Suggested questions for establishing a baseline of attitudes toward mathematics/STEM teaching are provided in the Word document that can be accessed by clicking [here](#).

Conclusion

There are a variety of ways to conduct the three primary types of research: fact finding, secondary research, and primary research. Mixing qualitative and quantitative research methods will provide the richest and most valuable data. It is also important to remember that the three types of research (fact finding, secondary, and primary research) work together to help maximize effectiveness of any communications program or campaign.

Research Limitations: While secondary research is a valuable tool for moving a campaign forward, ultimately primary research is necessary to make sure the most accurate data is collected and the most effective strategies and tactics are developed.

Recommendations: Secondary and primary research should be conducted prior to implementing strategic objectives or tactics for a recruiting campaign. Secondary research can be a very valuable tool to foster understanding of the issue among all the constituent groups and can serve as a guiding force for follow-on primary research.

In contrast, primary research is very useful for customizing and drilling down to obtain the needed information for the tactical success of any recruitment campaign.

Ultimately, the most useful research leads to effective strategic objectives and tactics, which in turn produce hyper-targeted messaging leading to the results desired by those launching the campaign.