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Volunteer Research and Knowledge Competency Codebook: A Tool for Identifying Volunteer Needs

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Abstract

Extension personnel are tasked with ensuring that 4-H volunteers have competencies identified in the Volunteer Research and Knowledge Competency (VRKC) Taxonomy, 4-H youth development's foundational volunteer skills framework. The VRKC Codebook is a qualitative analysis tool for accurately identifying VRKC-aligned needs expressed in volunteer needs assessment data. The codebook and accompanying guide were developed following a statewide volunteer needs assessment in which a need for VRKC-based evaluation tools emerged. 4-H educators can use the codebook and guide to efficiently detect areas of need that may otherwise be overlooked, empowering them to provide practical and impactful education and support systems better aligned with the unique research-based needs of their local volunteers.

Keywords: Volunteer Research and Knowledge Competency, coding, volunteer education, needs assessment, qualitative evaluation

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Introduction

Continual improvement of 4-H youth development volunteer education and support systems is central to creating and maintaining a thriving 4-H program. However, the education and support needs of adult volunteers vary widely, depending on volunteers' character traits, learning styles, communication preferences, previous 4-H backgrounds, and proficiencies gained through employment or personal experience. Therefore, one-size-fits-all approaches rarely work, a circumstance that highlights the essential role of accurate and detailed local needs assessments in the health of 4-H programs. Conducting needs assessments to determine what education and support systems are practical and impactful is crucial, but accurately identifying detailed needs expressed in volunteer responses to open-ended questions such as "What training do you need?," "What do you need to succeed?," and "What do you find challenging?" can be a surprisingly difficult task without a predesigned evaluation tool and plan.

Volunteer Research and Knowledge Competency Taxonomy

The Volunteer Research and Knowledge Competency (VRKC) Taxonomy is a comprehensive list of skills 4-H volunteers need to fully succeed in their role (Culp, McKee, & Nestor, 2006). Culp et al. (2006) developed the VRKC Taxonomy in the early 2000s from a research project on modern-day 4-H volunteer needs across 21 states (Culp, McKee, & Nestor, 2007; Nestor, McKee, & Culp, 2006). National 4-H Headquarters evaluated and approved the taxonomy in 2008, intending it to serve as the foundational framework guiding education and support for 4-H volunteers nationwide (Culp & Pleskac, n.d.). Included within the taxonomy are 42 skills arranged within six domains.

Nationwide, 4-H educators are tasked with identifying which VRKC skills and competencies local volunteers need. However, there is a lack of published VRKC-based tools and evaluation methods to help 4-H educators adequately detect specific VRKC-aligned needs within local assessment data.

VRKC Codebook

To address the need for VRKC-based tools, our research team designed a coding tool and process for accurately and reliably identifying specific VRKCs represented in qualitative needs assessment data. Coding is a standard method of qualitative analysis whereby researchers use codes to label segments of data in order to condense and categorize information into meaningful groupings that address a research question or theme (Miles, Huberman, & Saldaña, 2013).

We designed the VRKC Codebook by employing the complete VRKC Taxonomy as the framework for all deductive codes. Within the codebook, the six VRKC domains serve as primary codes, with their associated skills and competencies organized beneath them as subcodes. The codebook allows for multiple coding methods, including those involving the use of

- deductive codes (i.e., predetermined codes),

- inductive codes (i.e., codes that emerge during coding),

- multiple codes within one passage,

- subcodes in combination with an associated primary code,

- a primary code alone if a passage does not align with a subcode, and

- simultaneous coding when a passage relates to more than one primary code.

Design of the VRKC Codebook was informed through pilot testing and use of a preliminary version of the codebook and an accompanying guide in analyzing open-ended response data collected during a statewide assessment of Washington State 4-H volunteer education and support needs. The codebook is shown in Figure 1.

Figure 1.
Volunteer Research and Knowledge Competency Codebook

Volunteer Research and Knowledge Competency Codebook	
Primary Codes and Sub-Codes	**Coded Example Responses**

1. Communication Skills a. Speaking b. Listening c. Non-Verbal d. Information Delivery & Dissemination e. Marketing & Public Relations f. Use of Technology	**1d** "general knowledge about parts of 4-H that I'm not directly involved in, so I can educate kids/parents when asked about it" (*Inductive Code:* **4-H options**) **1e, 1f** "utilizing different types of media for outreach"
2. Organizational Skills a. Planning & Organizing b. Time Management c. Parent Recruitment & Involvement d. Delegating Tasks to Parents e. Service to the Community f. Marketing & Publicity	**2a** "finding good times to meet" **2c, 2d, 3e** "it's difficult when parents drop their kids and run and do errands during club events"
3. 4-H Program Management a. Organization & Structure of Extension b. Upholding the 4-H Mission c. Risk Management/Risk Reduction d. Liability Awareness & Reduction e. Club Management f. Behavior Management g. Record Keeping h. Financial Management i. Computer Skills	**3, 3a, 3e** "understanding the organization and paperwork involved, and knowing all the rules and regulations that 4-H imposes" **3c, 3d** "knowing the signs of abuse is important and one's safety to avoid allegations"
4. Educational Design & Delivery a. Use of Age-Appropriate Activities b. Utilization of Multiple Teaching Strategies c. Understanding Differences in Learning Styles d. Knowledge of Subject Matter e. Team Building Skills f. Application of Experiential Learning g. Program Evaluation Methods	**4c, 5c, 5e** "how to judge what is appropriate for a particular member (not necessarily by age but by capability)" **4d, 4f** "experiential education; specifically nature, art, science, and ecology projects"
5. Positive Youth Development a. Developing Life Skills b. Leadership Skills c. Understanding Ages & Stages of Youth Development d. Empowerment of Others e. Practicing Youth–Adult Partnerships f. Ability to Motivate & Encourage Youth g. Appreciating Diversity	**5c, 5d, 5e, 6** "it's hard dealing with youth being in charge" **4, 5b, 5d, 5e** "how to train our youth club officers" **5f** "getting the members to be committed to their project in the winter"
6. Interpersonal Skills a. Care for Others b. Compassionate Nature	**6, 2c** "how to deal with difficult parents" **4a, 4b, 4c, 5c, 5e, 5g, 6, 6e, 6g** "as with anything patience, adjusting

c. Acceptance of Others d. Honesty, Ethics, Morality e. Patience f. Ability to Develop & Strengthen Relationships g. Flexibility	to guide 4-H members, not all are alike"

VRKC Coding Guide

The VRKC Coding Guide (Figure 2) is designed to support novice evaluators through a basic coding process, from data collection to analysis.

Figure 2. Volunteer Research and Knowledge Competency (VRKC) Coding Guide	
Volunteer Research and Knowledge Competency (VRKC) Coding Guide	
Phase 1 **Collection**	Collect responses to open-ended questions related to volunteer education and support needs. *For example:* • What specific training(s) would be most helpful to you in your volunteer role? • What do you need to be successful in your role within the 4-H program? • What challenges have you experienced as a 4-H volunteer?
Phase 2 **Cleaning**	Data cleaning may include: • Removing incomplete or duplicate responses • Exporting or transcribing the data to a user-friendly platform like Microsoft Word • Numbering responses or lines of text (helpful for discussion between coders)

Phase 3
 	
Coding
	Two coders should assess each data set. It is beneficial to initially test the process with both coders using a small portion of data (e.g., 10%), and then discuss and improve the process as needed (i.e., preliminary intercoder agreement check).
	
	Instructions for coders:
	• As you read through each passage comment where you feel it corresponds with a code.
	
	    ○ In Microsoft Word, use the New Comment feature under the Review tab in the Tools menu, or
	
	    ○ code by hand by highlighting or underlining text and writing in the assigned code or codes.
	
	• If using Microsoft Word it is helpful for coders to add their initials to each comment, so the final merged document records all comments including those with matching highlighted text and code (e.g., Jane Doe should code a passage that aligns with code 2a and 4c as "JD 2a, 4c").

	• If you cannot distill down to a subcode (e.g., 2a), use the primary code (e.g., 2).
	• If you notice any important or repeated ideas that do not fit into a deductive code, you may label it with a descriptive, inductive code.
	• The same response or passage may have multiple codes. However, do not assign a code more than once to the same response; code frequencies should match the number of individuals independently expressing similar responses.
	• Code the data you have, not the assumptions you have about the data.
	• It is helpful for each coder to revisit their work to check for consistent application of codes (i.e., intracoder agreement).
Phase 4 **Agreement**	Independently coded data are compared among coders to ensure the coders have reached an acceptable level of agreement. Calculating intercoder agreement: • If coding was completed in Microsoft Word first combine the separately coded documents. On the Tools menu, open the Review tab, select Compare, and then Combine. In the Original document list, select one coded version, and in the Revised document list, select the other. • Count the number of codes that have a match (i.e., both coders chose the same code for the same passage), and the number of codes without a match (i.e., the coders did not choose the same code for the same passage, or one coder selected a code and the other did not). • Divide the number of matched codes by the sum of matched and unmatched codes to calculate intercoder agreement. Intercoder agreement of .80 or higher is a generally accepted level. However, the coding team may choose to set a higher minimum. • If intercoder agreement is less than the team's minimum acceptable level of agreement, discrepancies within coded passages should be discussed among coders to clarify and adjust selections until an acceptable level of agreement is $$\text{Intercoder agreement} = \frac{\text{\# matched codes}}{\text{\# matched codes} + \text{\# unmatched codes}}$$ reached. • Coders may choose to discuss and include inductive codes, if any, in the calculation to reach agreement.
	The type and level of analysis depend on the research goals and resources. Examples of simple approaches: • Compare code frequency to identify the top VRKC domains and skills of need. • Compare code frequency within the data sets of different question types, if used (e.g., a question about needs vs. a question about challenges) to improve future questioning strategies. • Compare code frequencies against demographic factors such as volunteer type, years of service, or age.

Phase 5 Analysis	- Create a word cloud with a list of all assigned codes to visually display volunteer needs data to others, especially general audiences. Examples of more complex approaches using qualitative data analysis software: - Run one-way chi-square analysis to compare actual VRKC domain or skill code frequencies to expected, testing for statistically significant differences in code frequencies. - Look for patterns, such as frequent code co-occurrences and other unique code intersections.

Note: Process designed for a novice coding team and informed by Guest & MacQueen (2008), Lombard, Snyder-Duch, & Braken (2010), and Miles, Huberman, & Saldaña (2013).

Conclusion and Implications

The VRKC Codebook and the accompanying VRKC Coding Guide are effective tools 4-H educators may use to identify specific research-based volunteer needs. These tools illuminate areas of need that may otherwise go unnoticed due to the comprehensive framework of the VRKC Taxonomy. This level of accuracy and depth allows educators to provide education and support systems that are better aligned with the unique needs of their local volunteers, improving local 4-H programs through practical and impactful resources.

Acknowledgments

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