

Training and Integrating Vulnerable Agricultural Workers

Safety Culture and Risk Management in Agriculture Meeting

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Workshop Purpose

To identify effective models for training and integration of vulnerable populations into the agricultural workforce.

- *Immigrants*
- *Migrants*
- *Refugees*
- *Young persons*
- *Older persons*
- *Women*
- *Persons with disabilities*
- *Minority*
- *Seasonal workers*



Migration: A global phenomena

The largest number of international migrants move from developing countries to developed countries, but slightly less than half move to another developing country.

There are also internally displaced people and rural-to-urban migration.

Push Factors

Encourage people to leave

- Unemployment/underemployment
- Insecurity
- Political instability
- Fear for personal/family safety
- War or armed conflict
- Climate related factors (e.g., drought, famine)
- Scarcity of land

Pull Factors

Encourage people to come

- Availability of jobs and economic opportunity
- Safety
- Educational opportunities
- Political and religious freedom
- Higher standard of living
- Better infrastructure
- Fertile land



Globally, there were 150.3 million migrant workers in 2015.



Seasonal & contracted agricultural workers in Europe

Regular (Hired) Non-Family Labor Force	AWU* Regular Non-Family Labor Force	AWU* Non-Regular (Seasonal) Non-Family Labor Force	AWU* Not Directly Employed (Contract) Labor Force
France 416,030	France 343,800	Spain 152,500	France 33,900
Spain 345,490	Spain 175,090	Italy 120,670	Spain 28,030
Germany 176,970	Germany 143,910	Romania 100,770	Romania 20,560
Italy 146,370	Hungary 85,310	France 84,210	Italy 14,530
United Kingdom 110,140	Italy 79,090	Germany 55,900	United Kingdom 13,200
2,023,880	1,467,170	777,910	171,740

* AWU = Annual worker units

Eurostat. (2013). Labour force in agriculture.



Immigrants in agriculture

Immigrants represent a significant portion of the agricultural labor force (3-D jobs). Immigrants may also be migrant or seasonal workers. They are considered a “vulnerable” worker population.

Below are some of the factors affecting immigrant workers’ occupational health:

- Hazardous work: dangerous conditions, high demands, long hours, inadequate rest, time pressure, and repetitive tasks
- Language, cultural, and logistical barriers
- Little or no safety training or personal protective equipment
- Low levels of formal education and literacy
- Poverty
- Racism, xenophobia, discrimination, and ethnicization of tasks
- Immigration-related fear/legal status
- Inadequate knowledge of labor rights and reluctance to speak up about unfair treatment or hazardous conditions



Higher rates of occupational injuries and illness

Ramos, A.K. (2018). A human rights-based approach to farmworker health: An overarching framework to address the social determinants of health. *Journal of Agromedicine*, 23(1), 25-31. DOI:10.1080/1059924X.2017.1384419

Liebman, A.K., Juarez-Carillo, P.M., Cruz Reyes, I.A., & Keifer, M.C. (2016). Immigrant dairy workers’ perceptions of health and safety on the farm in America’s heartland. *American Journal of Industrial Medicine*, 59, 227–235.



ILO Convention (C-184)

Safety and Health in Agriculture

Article 6: The employer shall have a duty to ensure the safety and health of workers in every aspect related to the work.

Article 7: The employer shall carry out appropriate risk assessments and adopt prevention and protective measures; ensure adequate and appropriate training on hazards/risks (while accounting for educational level and differences in languages); and stop any operation that is imminently dangerous workers.

Article 8: Workers in agriculture shall have the right:

(a) to be informed and consulted on safety and health matters including risks from new technologies;

(b) to participate in the application and review of safety and health measures and, in accordance with national law and practice, to select safety and health representatives and representatives in safety and health committees; and

(c) to remove themselves from danger resulting from their work activity when they have reasonable justification to believe there is an imminent and serious risk to their safety and health and so inform their supervisor immediately. They shall not be placed at any disadvantage as a result of these actions.

2. Workers in agriculture and their representatives shall have the duty to comply with the prescribed safety and health measures and to cooperate with employers in order for the latter to comply with their own duties and responsibilities.



Why training does not work

- Training does not meet the needs of the end-users (farmers/farmworkers).
- Training methodology and terminology are not appropriate for the audience.
- Training is once and done. Training is not consistently reinforced.
- Farm leadership does not follow through with the recommended actions from training; supervisors do not model correct practices on the job.
- Trainer is not trusted or is viewed as unexperienced by the workforce.

Lioutas, E.D., Tzimitra-Kalogianni, I., & Charatsari, C. (2010). Small ruminant producers' training needs and factors discouraging participation in agricultural education/training programs. *Livestock Research for Rural Development*, 22(7).

Occupational Safety and Health Administration. (2016). Recommended practices for safety and health programs. <https://www.osha.gov/shpguidelines/>



End users should be engaged in the design & development

Both farmworkers and supervisors can contribute to the development of effective training materials.

- Tasks
- Structure of work
- How work is carried out among workers
- Thought processes

Materials may be refined through some form of rapid cycle improvement process such as design thinking or user-centered development.



Caffaro, F., Micheletti Cremasco, M., Bagagiolo, G., Vigoroso, L., & Cavallo, E. (2018). Effectiveness of occupational safety and health training for migrant farmworkers: A scoping review. *Public Health*, 160, 10-17.

Ramos, A.K., Trinidad, N., Correa, A. & Rivera, R. (2016). Partnering for health with Nebraska's Latina immigrant community using design thinking process. *Progress in Community Health Partnerships: Research, Education, and Action*, 10(2), 311-318.



Engagement: A key component to learning and retaining knowledge

Low-engaging methods (one way flow of information)

- Lecture
- Video
- Written materials



- Computer-based instruction
- Flip charts

High-engaging methods (active learning)

- Think-pair-share
- Facilitated case discussions
- Hands-on practice with feedback
- Action-focused reflection

Knowledge in stages
Principles of behavioral modeling

- Try to use a variety of teaching strategies that address different learning styles (audio, visual, and kinesthetic).
- Use low-engaging formats as reinforcements for what was taught.
- Connect people to local resources.



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Background

Back pain is the most common cause of job-related disability all across the world (Hoy et al., 2012). Almost 80% of people will experience a back injury sometime in their lives (Rubin, 2007). Farmworkers are no exception. In fact, about 25% of farmworkers experience back pain, in part due to awkward body positions, repetitive motions, and vibrations common in farm work (Xiao, McCurdy, Stoecklin-Marois, Li, & Schenker, 2013). Many also experience back injuries. According to the Nebraska Migrant Farmworker Health Study 2016, 18.3% of farmworkers have been injured on the job and of those about 21% were back injuries (Ramos, 2016).

Although some of the risks for injury can be resolved through engineering controls, changes to administrative processes and work practices are still necessary. Ensuring proper training of all workers is an important step in reducing ergonomic stress and preventing back injuries (Donham & Thelin, 2016).

The purpose of this poster is to describe the development and testing of a short back safety module created for H-2A farmworkers.

Methods

In early April 2017, Proteus, Inc., a farmworker health, education, and training organization, was approached by one of their partner farms in Nebraska. Workers on the farm had experienced back pain and back injuries during the last season. The farm was seeking basic training to prevent pain and future injuries.

A representative from Proteus contacted an investigator from the Central States Center for Agricultural Safety and Health (CS-CASH) to explore the possibility of developing a short back safety module that could be used in conjunction with other training already happening on the farm. In late April 2017, representatives from Proteus, CS-CASH, and the farm met to discuss what should be included in the training based on actual job tasks on the farm.



After the farm visit, the team explored current available resources from the National Ag Safety Database (NASD), National Institute for Occupational Safety and Health, and the Occupational Safety and Health Administration (OSHA). Core training messages were developed based on the current science of back pain, back injury, and preventative strategies. Training was developed in English, reviewed by two physical therapists, and then translated into Spanish by native speakers who were certified translators.

Implementation and Results

The training was designed to be implemented on the farm with a duration of approximately 20 minutes. Because of the potential lack of training facilities and structured meeting rooms, this training was designed to be implemented with limited resources, just a facilitator, a standard reusable produce container (RPC), a large copy of the pictures used for discussion, and if possible a copy of the warm-up exercises for each worker.

The learning objectives for this back safety module included:

1. To understand that back injuries are common among farmworkers
2. To recognize risks for back injury
3. To identify safe lifting practices
4. To describe strategies to protect musculoskeletal health.

A total of 63 farmworkers participated in the back safety training in June 2017 in Monroe, Nebraska. The training was conducted in Spanish and held on the farm outside during the workday within the first two weeks after the workers' arrival into the U.S.



During the training, workers were asked who had ever hurt their back and what did it feel like. The facilitator discussed frequency, intensity, and duration of movements and load location. Workers were shown pictures of safe and unsafe lifting practices (Figure 1). Then, they were asked to identify and discuss why they believed each picture was safe or unsafe. Facilitators also demonstrated some warm-up exercises and workers practiced them as a group (Figure 2). Finally, strategies for protecting musculoskeletal health were discussed.

Figure 1: Safe and Unsafe Lifting Practices



Figure 2: Sample Warm-up Exercises

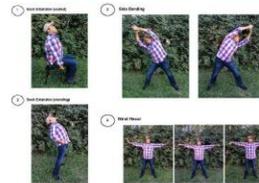


Figure 3: Evaluation Cards



At the end of the training, a short evaluation based on the New World Kirkpatrick model for evaluation (Kirkpatrick & Kirkpatrick, 2016) was conducted with the workers. Evaluation questions focused on three levels of the model: reaction, learning, and behavior. Workers were given color-coded pieces of paper to tear off for their responses to these questions (Figure 3).

Evaluation questions included:

1. This training was helpful to me. (Level 1: Reaction)
2. I know what are some of the risks for back injury. (Level 2: Learning)
3. I will use what I learned about back safety on the job. (Level 3: Behavior)

The training was well received by the workers. Of those who participated in the training: 100% agreed that the training was helpful, 98% agreed that they now know about some risks for back injury, and 100% agreed that they will use what they learned about back safety on the job.

Discussion

Oftentimes, farm managers and supervisors do not have time to find training materials for every concern found in the work environment. Partnering with academic institutions to meet industry-relevant training needs may be a practical solution to overcoming some of these challenges. This back safety module was developed so that it could be used as a regular training component of on-boarding seasonal employees. It is available in English and Spanish and includes easy-to-use facilitator instructions.

Given varying levels of worker literacy and agricultural work experience, the module uses graphic illustrations, demonstration and teach-back strategies, and practice to ensure that workers understand the content. These strategies are useful and can be used to train workers on a variety of health and safety concerns.

Conclusions

Back injuries are common among farmworkers; however, they may be prevented through appropriate training. Partnerships with academic institutions and farmworker health advocates may help farms to be able to meet the vast training, information, and resource needs of their seasonal workers. Ensuring culturally, linguistically, and contextually appropriate educational strategies is critically important to making a difference in actual injury rates and being able to link these to Level 4 evaluation of results.

Acknowledgements

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References

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Camp health aide

Camp health aide relies on local non-professionals who receive training in particular health issues and act as educators, advocates, and providers of first aid, outreach, and social support.

Camp health aide is similar to a lay health educator, health promoter, community health advocate, or a community health worker.

WHO states that individuals in this role should be:

- members of the communities where they work
- selected by communities
- answerable to communities for their activities
- supported by the health system, but not necessarily a part of its organization
- have shorter training than professionals



Seguridad en las lecherías

The *Seguridad en las lecherias* project employed a popular education model that builds on experiential learning approaches relevant to the everyday lives of workers.

The goal of this project was to bridge the gap in worker health and safety training in dairy production, by testing a culturally appropriate, occupational safety and health intervention to reduce worksite hazards and to improve knowledge and practices among immigrant dairy workers in Wisconsin.

SPECIFIC AIMS:

1. Translate and apply research to an occupational health and safety intervention for immigrant workers in dairy;
2. Engage dairy producers, farm managers, workers and clinicians, health and safety professionals to raise awareness and increase understanding of strategies to improve the occupational health and safety of immigrant workers in the dairy industry; and
3. Evaluate the intervention to determine reduction in hazards, changes in knowledge, attitude and practices among immigrant workers and the acceptability of the CAPE methods.

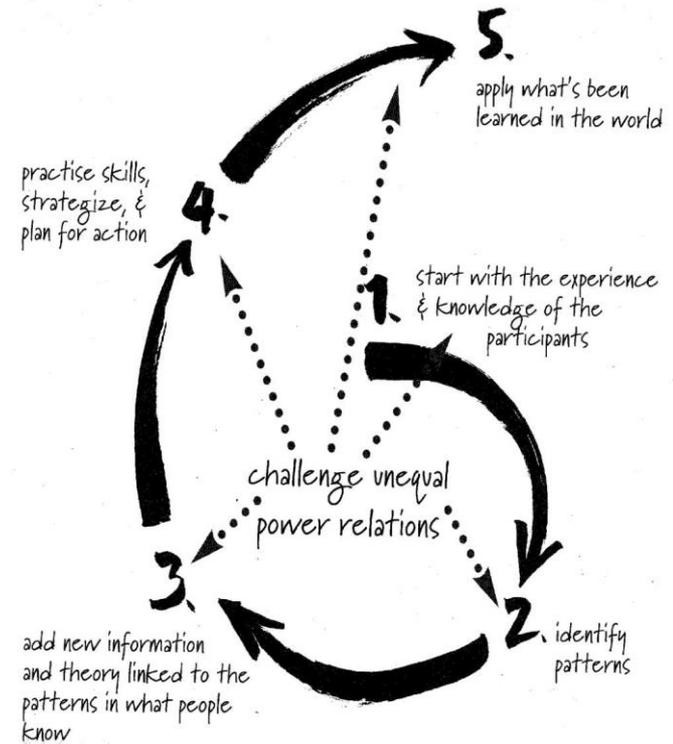


Popular education

All participants are simultaneously learners and teachers.

The purpose of popular education is **conscientization** by critically reflecting on the conditions that exist, then imagining possibilities for something much better that emerges from both interpersonal and institutional dynamics.

- Praxivism (reflection *and* action)
- Start where people are at; Begin with their experiences, knowledge and skills
- Ensure that learning comes from the whole group, not just a few people
- Connect personal experiences with the systemic infrastructure
- Contextualize and connect to the history, present and future of the issue
- Build capacity so that the expertise is within the community
- Trust in people and the knowledge that they bring; Respect and value each voice
- Build solidarity to address shared issues

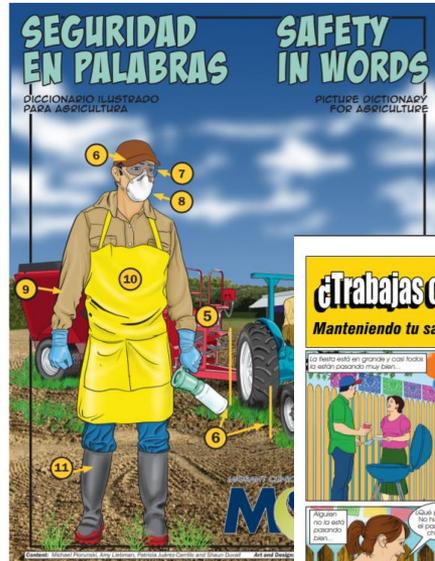


<http://theseedhouse.org/how-we-do-it/popular-education/>



Seguridad en las lecherías

<https://www.migrantclinician.org/seguridad>



Lesson 1



Working Safely in Dairy | Como trabajar seguro en las lecherías

This lesson will help participants to:

1. Recognize the importance of being safe at work
2. Identify the main hazards (causes of injury and illness) on dairy farms
3. List the general ways hazards can be controlled

Esta lección le ayudará a los participantes a:

1. Reconocer la importancia de estar seguros en el trabajo
2. Identificar los peligros principales (las causas de lesiones y enfermedad) en las lecherías
3. Enlistar las maneras generales en que se pueden controlar los peligros

LESSON 1 (ENGLISH)

LECCIÓN 1 (ESPAÑOL)

Lesson 2



Working Safely with Cattle | Trabajando con seguridad con el ganado

This lesson will help participants to:

1. Recognize cattle behavior to make work working with them safer
2. Describe hazards involved in working with cattle
3. Identify safe practices when working with cattle

Esta lección le ayudará a los participantes a:

1. Reconocer el comportamiento del ganado para manejarlo en forma más segura
2. Describir los peligros relacionados con trabajar con el ganado
3. Identificar las prácticas de seguridad cuando se trabaja con el ganado

LESSON 2 (ENGLISH)

LECCIÓN 2 (ESPAÑOL)



Technology-based models

Douphrate and colleagues found that mobile technologies were useful in training immigrant workers. There were increases in worker knowledge and workers were satisfied with the training format, which included:

- Bilingual/bicultural staff visiting farms actively assisting workers
- Multilingual computer-based modules (accessed through iPads) completed during work day on the farm
- Curriculum consisted of general modules for all workers and task specific modules based on current job functions
- Certificate of completion for the workers



Innovative training opportunities

- Fotonovela/Comic book
- Storytelling/Audio library
- Radionovela
- Theater



Audio/Video Library - Listen and Learn!

Audio Biblioteca - ¡Escuche y Aprenda!

The Pacific Northwest Agricultural Safety and Health Center (PNASH) is proud to offer educational audio programs that highlight important health and safety issues faced by farmworkers and their families. Each story holds lessons on how to stay safe.

- **Sexual Harassment Prevention Project, Health and Safety of Women Agricultural Workers** - Listen to a Spanish-language radionovela on Sexual Harassment prevention. [Spanish](#)
- **AG StoryCorps®** - Life-changing agricultural injury stories from farmers. [English](#)
- **The Chavira Family** - Listen as they cope with issues such as asthma, pesticide exposure, water quality, and workplace abuse common among immigrant farmworker families. [English](#) or [Spanish](#)
- **Ladder Injuries**
 - Listen to real workers share stories about falls from ladders, the injuries they suffered, and the consequences faced by themselves and their families. [English](#) or [Spanish](#)
 - Watch this video on real life ladder injuries and simple directions to motivate workers to be safe. [Spanish with English subtitles](#)
- **Heat Illnesses**
 - Four short radio dramas help the listening audience understand what causes heat illnesses, how to recognize, treat, and prevent them. [English](#) or [Spanish](#)
 - Watch this video novella on the basic signs, symptoms, and treatment of heat illnesses experienced by workers exerting themselves while working in the heat. [Spanish with English subtitles](#)

Recommended Users:
 Spanish Stations Serving Spanish Speaking Listening Audiences
 Health and Safety Workers
 Community Health Workers



Material development considerations

PRINTED MATERIALS

- Font
- Color
- Images (e.g., photo vs. drawing; step-by-step photos)
- Layout (e.g., side-by-side; white space)
- Language (e.g., mono-, bi-, or multilingual; translation quality)
- Literacy level

AUDIO & OTHER MEDIA MATERIALS

- Characters
- Voices
- Trust of spokespeople
- Placement (e.g., stations, online)
- Reach of medium
- Regular repetition
- Cultural fit with the target population

Chu, S., Martinson, B., McNaughton, M., & Lawton, D. (2000). Designing multilingual communications. *Journal of Applied Communications*, 84(2), 7-27.

Vigoroso, L., Caffaro, F., & Cavallo, E. (2018). Occupational safety and visual communication: User-centered design of safety training material for migrant farmworkers in Italy. *Safety Science*. DOI: 10.1016/j.ssci.2018.10.029



Program development

Evidence-based programs ...
Could there be some for
agriculture health and safety?

- What are the topics that need to be addressed?
 - ✓ Proper method to complete task, **hazard, risk**, PPE, reporting, **near misses**
- How will the topics be addressed? Methods?
- What are the “active ingredients” of the program? Why does it work?
- What is the appropriate “dosage” of the program?



Socioecological Model of Farmworker Health



Components and Impacts of Integration on Community Life



Appreciative Rural Narratives on “Welcoming”

Hispanic/Latino immigrant participants liked their new communities and planned on staying. They contributed to community life in many ways. Overall, they were satisfied with their lives, even though they experienced some real and perceived challenges.

Community leaders may have limitations such as dealing with national immigration laws and policies, but they can:

- Make people feel comfortable
 - Mitigate the fear related to anti-immigrant policies
 - Foster a sense of community
 - Strengthen social capital
 - Promote community well-being
 - Make the community a more welcoming and safer place to live
1. “Welcoming” is about intentional inclusion – not just hoping that people will come or participate, but actually being proactive and creating the conditions where people feel included, accepted, and valued.
 2. Furthering integration requires changes to community systems and developing community opportunities that could benefit all residents.
 3. Most people can connect with an experience of being a newcomer - whether a newcomer to town, new kid in school, or being the new person at work. Using this experience as a bridge to foster empathy may motivate leaders to act on their power.



Creating a culture of safety

Fostering positive relationships between workers and supervisors/managers is critical to improving safety culture in agriculture.

Effective relationships require:

- Trust
- Strong communication
- Being open to learning
- Acknowledging errors and committing to improve

End users should be involved in the development of training topics and materials.

High quality, engaging training upon hire and at regular intervals throughout employment is essential.

- Training may be completed in-person or using technology.
- Reinforcement of training with family and friends of farmworkers may promote the retaining of information and increase the effectiveness of interventions.

Integration of immigrant agricultural workers must happen at work, but also in communities. Without supportive communities, it will be difficult to attract and retain motivated workers.



Advancing research with vulnerable workers

Farmworker enumeration studies that take into account official published statistics but also working knowledge of community and industry stakeholders

Develop common definition of “vulnerable” and “migrant”

Include occupational status in electronic medical records

Multidisciplinary approaches to address the myriad of cultural, demographic, health, political, and social aspects of workers’ lives

Should try to collect migration-related data including country of origin, age at migration, duration in host country, plans for tenure in host country, language proficiency, ethnicity, and acculturation

Studies that address the country of origin, transit, destination of these workers

Ensure study staff have specific cultural awareness training to work with the target population of workers, understand the language, and any potential safety issues



Discussion

1. Are these types of training methodologies/strategies practical in the European context? Why or why not?
2. What other types of training ideas for vulnerable populations do you have?
3. What other demographic changes/migration patterns are you seeing in your country?
4. What other types of research may be necessary to improve the data on immigrant, migrant, seasonal, and refugee farmworkers?
5. Community welcoming strategies are occurring throughout the world. How could you capitalize on a “welcoming” strategy to encourage participation in national agriculture?
6. What other opportunities for integration of vulnerable workers exists?
7. What partnerships are needed to improve safety culture among vulnerable workers?



Resources

European Working Conditions Survey

Includes information on employment status, working time duration and organization, work organization, learning and training, physical and psychosocial risk factors, health and safety, work-life balance, worker participation, earnings and financial security, as well as work and health

<https://www.eurofound.europa.eu/surveys/european-working-conditions-surveys>

PROMINSTAT

Responds to the need of researchers, policy makers and practitioners for more reliable, more systematic and more harmonized statistical data on migration, integration and discrimination in Europe

<http://www.prominstat.eu>



Questions?

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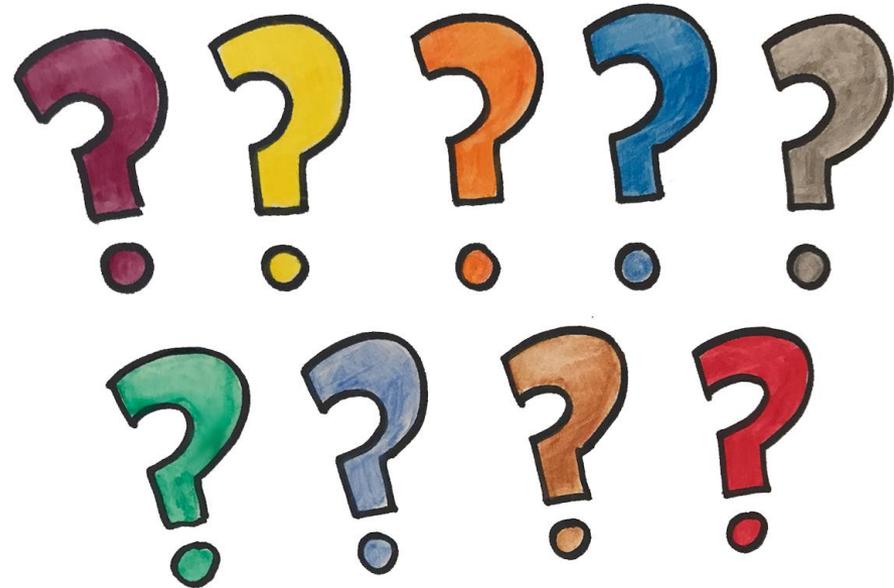
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