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Non-formal interviews as model interfaces: A case for deep learning in workplace instructional design research

Summary: This paper introduces non-formal interviews as a method of qualitative data collection in instructional design research (IDR), particularly in workplace-based lifelong learning interventions. Drawing on case study and autoethnographic reflection on prior research with Costa Rican airport customs officers learning vocational English, the paper theorizes and describes how non-formal interviews capture the real-time complexities of workplace language use and communication in ways that formal interviews can miss due to their reliance on retrospective participant reflection. By combining the techniques of observational conversations, shadowing, and researcher-participant collaboration explicitly lensed through a study's research questions, non-formal interviews capture detailed, real-time insights into emergent workplace behaviors, communication challenges, and learning opportunities. These insights complement formal interviews and provide richer data to inform more effective IDR interventions that support workplace communication, language acquisition, and behavior change.

This study identifies four key advantages of non-formal interviews as model interfaces for vocational language learning in IDR. First, they offer direct, real-time access to workplace behaviors and interactions. Second, by minimizing the reflective buffer of formal interviews, they capture more immediate and authentic onsite language use. Third, their flexibility allows researchers to document language adaptation as it happens in response to workplace demands. Finally, they accommodate data collection to the shifting linguistic and behavioral needs of dynamic work environments. These findings underscore the potential of non-formal interviews to enhance workplace learning interventions by grounding instructional design in actual workplace practices. The paper concludes with recommendations for integrating non-formal interviews into IDR methodologies, emphasizing their

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ability to support behavior-driven, context-sensitive, and adaptive learning strategies. By formalizing a structured yet flexible approach to workplace-based qualitative inquiry, non-formal interviews bridge structured qualitative interviews and participant observation, ensuring that instructional design research captures workplace learning as it unfolds in real time. A fourfold framework for implementing non-formal interviews in IDR is also discussed.

Keywords: *instructional design research, occupational English, non-formal interview, shadowing, airport customs*

Introduction

While data collection constitutes an indispensable core of virtually all qualitative research (Goswami et al., 2021; Williams & Moser, 2019), it is especially essential for instructional design research (IDR) geared toward deep learning in workplaces and invite, offer, or require significant behavioral changes by people at places of work. This is not simply because deep learning is always already inherently experiential and qualitative in itself (Jones & Sharma, 2021) but because successful workplace learning requires a suitably relevant, motivating, adaptive, flexible, and resilient approach to implementation (Bello-Bravo et al., 2022; Gunderson, 1999) if the desired changes are to happen at all—ideally among the largest number of present and future offline, online, or remote workplace stakeholders (de Lucas Ancillo et al., 2021).

While such a suitable approach calls for equally suitable, qualitatively driven data to implement deep workplace learning, here we focus on interviewing as one form of data collection. While interviews are used extensively to collect behavior change data among workplace personnel for realizing deep learning IDR goals (Shernoff et al., 2020; Tennyson & Park, 1980), it is rarely clear in advance, if ever, whether all needed and relevant qualitative workplace data can be accessed in this way (especially now with increased online research interactions) (Lobe et al., 2020; Nunkoosing, 2005; Roulston, 2019).

It is not, of course, a novel insight to emphasize that different interview probes generate different types of data. This can be the case even in the "hard" sciences (Shaikh & Patil, 2020); for example, the data probe of a thermometer cannot capture a barometer's measure of atmospheric pressure data and vice versa. As such, different types of interview—including but not limited to in-depth group interviews, focus groups, focused interviews, conversational or personal interviews, alone or in conjunction with self-interviews using researcher or team reflexivity—can only generate data characteristic of their type and not the type of data captured by other probes (Adhabi & Anozie, 2017; Haggerty, 2003; Javadi-Pashaki & Darvishpour, 2020; Lambert & Loiselle, 2008; Lines et al., 2021; Moscoso, 2000; Van Biljon, 2011; Vaughn et al., 1996; Webb & Kevern, 2001).

This comparison will not seem exact at first because—unlike data captured for temperature and barometric pressure, which are explicitly distinguishable from one another—data captured by interviews can readily present as similar or identical. Adequately distinguishing the relevant differences can be challenging, or impossible. This is not simply to reiterate the ubiquitous need for external validation of interview data (Fielding, 2012; Seidman, 2013), but to emphasize the risk of assuming that differences in interview data type can be bracketed out or ignored as non-significant across different interviewing settings.

In one sense, this apparent data similarity is an asset, affording researchers multiple points of entry for data collection in situations otherwise constrained by a study's practical limitations, e.g., limited time to interview all relevant participants, con-

strained or limited topic discussion, and problems from insufficiently representative samples in group interviews (Lambert & Loiselle, 2008; Vaughn et al., 1996). Moreover, these pragmatic challenges—especially given increasingly online and remote contexts (Lamb, 2021; Webber-Ritchey et al., 2021)—will likely persist even if the epistemological, theoretical, and methodological "problems" of interviewing are solved (Nunkoosing, 2005; Partington, 2001; Roulston, 2019). Seidman (1991) long ago cautioned that the phenomenological character of interviewing introduces the risk and obligation that researchers are, as Anderson and Holloway-Libell (2014) put it, "actually gathering data on what you intend" (p. 428).

Toward that end, this paper advocates for non-formal interviews as a data collection method for deep-learning IDR needed to drive significant behavioral change among workplace stakeholders. To highlight their unique capacities and distinguish them from other interview types, the notion of interviewing as a model interface is first explored.

Interviews as Models and Interfaces

Models

As a first physical example: imagine collecting barometric pressure using a thermometer. This would yield unusable data, unless it somehow relied on irrelevant factors or an as-yet unknown principle. Still, if this flawed method consistently produced reliable results, it might be pragmatically retained despite its mystery.

The two characteristics to be highlighted in the above situation are (1) that the model approach can work even though it is wrong, and (2) that it always does something, i.e., always generates results, whether useful, coherent, or not. These are two very characteristic features of models. Taylor (2010), for example, discusses a very predictively accurate model of living organisms whose variables sometimes include population counts below zero. This

motivated Taylor (2010) to warn against assuming the relevant characteristics of any model variables in advance when investigating unknown phenomena. However, this caution extends beyond simply getting the correct variable assumptions into the model, given that because "all models are wrong, the scientist cannot obtain a 'correct' one by excessive elaboration" (Box, 1976, p. 792). Accordingly, Box (1979) emphasized the usefulness of a model as its metric for continuing to use it, not any correspondence or lack of it with some framework of "truth."

Using a model—whether an interview or any other data probe—involves an indirect mapping of a phenomenon, not a direct apperception. Hence, Korzybski's (1933) famous insight, "a map is not the territory it represents," then continues, "but, if correct, it has a similar structure to the territory, which accounts for its usefulness" (p. 58). This anticipates Box (1976, 1979). At first, this seems to suggest that a model is an interface, but this is not the case, as the following explores.

Interfaces

To again begin with a familiar example: what one sees on a computer screen is not the actual reality of on/off electrical impulses but a mapping of it into whatever coherent or incoherent content appears on the screen. As a designed interface, this reflects three conditions: it intentionally (1) does what it is designed to do, (2) avoids what it is designed not to do, and unintentionally (3) affords emergent properties not anticipated by the interface's designer. Sometimes, emergent properties are useful and are integrated into the interface as new features; other times, they are undesirable or not useful and are patched out.

Here, the two key characteristics are (1) that the interface work stably and consistently; otherwise, what it presents may no longer be useful, and (2) that the interface's bi-directional operation can only do what is already built in, whether afforded, avoided, or emergent. Hence, while different in-

terfaces (e.g., different web browsers) will generate similar screen content, the benchmark of their suitability is whether those models afford navigation by a user.

Whether well-designed or not, whether working stably or not, interfaces affect this coordination or navigability. It is precisely the possibility and threat of interviewing as a poorly designed or malfunctioning interface that prompts the concern we may not be "actually gathering data on what you intend" (Anderson & Holloway-Libell, 2014, p. 428). Hence, again, the critical role of data validation (Denzin, 1970; Seidman, 2013; Thurmond, 2001) and, more generally, redundancy in information systems (Shannon & Weaver, 1949).

Thus, while model provides the built-in terms for how the interface's operations will appear to its user, the interface mediates the interaction between its user and something "out there" as constructed by the model. Taken together, this describes a model interface.

Model Interfaces

An interview is not a direct apperception of another person but a mapping of their reality, translated in ways that may be coherent or distorted. It is a model interface that (1) elicits relevant model data, (2) avoids eliciting irrelevant model data, and (3) exhibits emergent data not anticipated in its design that can then be patched in or out. Thus, different interview types generate different but similar-appearing data types—just as two different Internet browsers present different but similar-appearing screen content. Likewise, Box's principle that "all models are wrong, but some are useful" (1979, p. 202) ensures that interview models will always generate data, whether useful or not; the key question is, "how wrong do [models] have to be to not be useful?" (Box & Draper, 1987, p. 74). For qualitative workplace IDR, this threat of mismatch is significant, as making the map as accurate as possible is essential for workplace behavioral change.

Returning to the physical example of a barometer, the coherence of model results can be checked and put in check by reality itself. In contrast, model use in social contexts may afford no such check. This is how failures of models to achieve their desired behavior-change outcomes will incorrectly label those outcomes, e.g., psychiatric "noncompliance," "attrition" in medical treatment regimes, diagnoses of "oppositional-defiant disorder," non-participation by "drop-outs" in school systems, "super-predators," "nonconformists," or "wrecking" of efforts to implement institutional changes.

Making the Case for Non-Formal Interviews in Workplace Contexts

Non-formal onsite, on-the-fly interviews are especially useful in workplace research when the aim involves changes of behavior. By being in the middle of the action—on-site, in real time—this affords more situationally specific data. This can integrate methods like shadowing, observational conversations, and active researcher participation in workplace tasks, but always lensed through the study's research questions. This enables researchers to capture granular, real-time data and make immediate situational probes that traditional interviews can only access through the participant's (offsite) memories and reflections.

Unlike formal interviews, non-formal interviews can adapt on-the-fly to workplace realities, allowing probes and engagements with those multi-faceted and dynamic complexities in real time. This flexibility is especially helpful for examining language-use contexts, i.e., airport customs officers learning and using vocational English in public interactions with native speakers—contexts where traditional, rigid protocols may not capture the immediacy and granularity of real-world practices.

Formal interviews afford time, space, and comfort for reflection but introduce a "reflective buffer" of self-interpretation that may distort actual

workplace practices. In contrast, onsite non-formal interviews reduce this buffer, capturing less filtered, context-specific insights. Onsite, the questions "Why did you do that?" or "What do you need?" may elicit a different, task-contextualized response that a formal interview would not.

Of course, the model interface of non-formal interviews also can only capture the data it captures. Both formal and non-formal data are useful. However, for IDR, non-formal interviews give access to context-specific data of more immediate relevance when designing workplace interventions requiring behavior change, especially through researcher's capacity to encounter emergent insights—unexpected insights that may completely reshape the intervention's design.

Moreover, non-formal interviews provide a mechanism for researchers to map participant workplace realities and practices dynamically. While this risks becoming overly dense with the total immediacy of any given situation, it allows not simply observing but immediately observing the setting through the research questions' lens. For vocational English learning, this includes noticing non-traditional ways of learning that participants utilize onsite, such as collaborative peer activities or technology-driven informal interactions.

The presence, impact, and impossibility of bracketing out the interviewer in formal interview settings is well-documented (Burgess, 1982; Mills, 2001; Olson, 2015; Schaeffer, 2004). This same holds for non-formal interviews, especially as their onsite presence directly affects the environment. Nonetheless, their presence and perceived role within the workplace context help make their shaping influence more visible. No matter how a researcher positions themselves—as watching, fully involved, or somewhere in between—their presence inevitably affects how people act or respond, especially in workplaces with clear hierarchies or task-driven routines. The questions they ask do not just gather information, but can directly shape what's happen-

ing. If a well-placed question might throw off a participant's workflow for a moment, it might also spark a reflection they wouldn't have had otherwise. This in-situ back-and-forth drives up the importance of research reflexivity—their awareness of how their presence and interventions shape data collected and conclusions drawn. Recognizing these influences ensures that non-formal interviews are rigorous and contextually grounded, enhancing their value for workplace research.

As a model interface, non-formal interviews synthesize and adapt anthropological participant observation, contextual inquiry, reflexive/conversational interviewing, and shadowing, and a potential to adapt other site-relevant modes. It represents experiential research, recognizing participants as collaborators and exposing the researcher to the experiences and actions being researched (Heron, 1982). As such, it affords a knowledge creation that can only arise when two or more people interact (Heron & Reason, 2008; Richards, 2013). In principle, participants can strengthen the process and quality of data at all points in a study, from designing the questions and method, to any evaluative coding and process, validity procedures, and even doing auto-ethnographic research themselves. In a collaborative research framework (Heron & Reason, 2008), all parties involved can take an active role.

Interpretive Approach

While this study takes its case from prior research (Rojas-Alfaro & Chen, 2019; Rojas-Alfaro, 2021), autoethnographic analysis is used here to reframe part of my research practice in that prior work as non-formal interviewing. The goal is to describe non-formal interview so that it can be used, tested, and further explored as a form of data collection especially relevant for IDR work aimed at changing workplace behavior.

Background Study

Previous work (Rojas-Alfaro & Chen, 2019; Rojas-Alfaro, 2021) explored customs officers' spoken English use in two Costa Rican airports. Data collection took place during three different periods—from May to June 2017, May to June 2019, and January to February 2020—with 18 customs officers participating. From other experiences conducting research in workplace environments, I planned and did use field notes, observational shadowing, and conversations as onsite data collection strategies, later triangulated and member-checked with participants.

In the summer of 2017, I spent a week at a customs checkpoint in an international airport in Costa Rica to understand how native Spanish-speaking customs officers used English in the workplace. Workplace fluency in English is a critical skill for Costa Rican airport customs officers, not only to perform their security functions as officers but also to be a non-negative introduction and experience for foreign tourists, especially English-speaking ones, entering the country (Bonilla Lynch & Rojas Alfaro, 2012). Tourism is a major source of Costa Rica's GDP.

From this work, I observed the critical importance of conversations (not just specialized customs-related terminology and interactions) for officers' workplace English use. While the setting is fast-paced, officers stated they benefitted from their conversational exchanges with English-speaking travelers, as a way to informally learn English pronunciation, grammar, and vocabulary. Most surprisingly, I learned that occupational English training is neither provided nor compulsory for officers. Despite this, participants uniformly expressed their desire to improve their spoken English proficiency, through traditional or non-traditional methods, including online learning. Given their often unsatisfactory experiences with formal English-learning environments, this preference for non-traditional and online settings makes sense, especially considering their fluctuating work schedules.

During follow-ups in 2019 and 2020, I researched customs officers' occupational English language needs in order to design a training program. I collected data on task difficulties related to their routine use of occupational English, the communication functions employed to express ideas in tasks, and the officers' motivations to learn occupational English, informal learning practices, and six priority areas for a training program to meet their needs.

Autoethnographic Reflection

Reflecting autoethnographically on the interviewing and other data collection strategies used in the above research provides a lens through which a researcher can explore personal experience in relation to cultural and methodological practices (Ellis et al., 2011). Accordingly, I revisited my field notes, observational memories, and interactions from the data collection periods to identify patterns and moments that shaped my understanding of the customs officers' workplace realities. The themes of "shadowing"—i.e., immersively following customs officers through their onsite routines—and conversations—i.e., spontaneous, contextual interactions that unfolded in real-time—surfaced as two highly impactful strategies for yielding not simply the rich, situated data needed for qualitative research (Geertz, 2008) but also insights specifically relevant to workplace behavior change.

Shadowing and conversation were not pre-designed in the study as complementary methods, but through autoethnographic reflection, it became apparent that their combination had facilitated access to more real-time insights into the officers' use of English, their informal learning practices, and their workplace challenges. By integrating my personal immersion, observations, and the cultural dynamics of the workplace into this reflection, I conceptualized shadowing and conversation as integral to non-formal interviews.

Shadowing. This strategy typically involves immersive and observational participation, provid-

ing access to onsite behaviors and practices (Hamada, 2019). It facilitates learning, i.e., for new workers being exposed to established workers' onsite task performance or to ensure compliance with policy or workflow (Hamada, 2019). Here, I adopted a participant-as-observer role, which is fairly obtrusive (Scott & Medaugh, 2017), but it enabled me to closely experience the workplace social dynamics more like an insider while immersing myself in the setting to understand participants' behavior and performance during their situated practice, consistent with other research (Scott & Medaugh, 2017). From this accurate, concrete, and real-time description of the onsite activity, equally concrete and relevant interventions to address participants' workplace needs can be generated. Here again, broadening stakeholder participation helps better ground the likelihood of behavioral change buy-in.

Conversation. This fundamental form of human communication is essential for IDR design for workplace behavior change. It affords the critical functions of building rapport with participants, opening channels to address sensitive matters and paving the way for later inquiry and policy recommendations for onsite change implementation (Abbe & Brandon, 2014; Sherif, 2001). Conversation synergistically affords exploration and discovery of insights that the parties involved would not have arrived at on their own (Pask, 1976; Richards, 2013, 2019), similar to brainstorming and other creative/collaborative activities (Gerber, 2009; Paulus & Kenworthy, 2019), potentially eliciting a sense of group cohesiveness (Henningsen & Henningsen, 2018). Such cohesion and solidarity helps ground participant buy-in toward onsite policy and behavior change, echoing the insight that when those affected by the policy are involved in its determination, greater willingness to adopt policy changes is likely to occur (Abudulai et al., 2016; Bello-Bravo et al., 2010; Lutomia et al., 2024).

Conversation primarily consisted of non-formal, ice-breaking, short dialogues or occurred spontaneously onsite. A staff member or I might start a conversation to share, clarify, or inquire about ideas. These happened at different workplace locations, afforded participants a comparatively stress-free environment, and lasted only a few minutes. While conversations were often orienting and introductory and did not expressly or formally function as data collection, numerous occasions arose where conversations added to the research picture I was constructing.

Despite the retrospectively obvious complementary relationship between these shadowing and conversation, my prior work did not explicitly integrate them. Although conversation would occur during shadowing and leave traces in field notes and memory, no formal leveraging of their interaction occurred. Accordingly, this paper describes such an integration. From autoethnographic reflection, the metaphor of a jigsaw puzzle is suggested. That is, while shadowing provides pieces of a larger workplace picture of participants' behaviors, conversation can confirm or provide additional detail to fit the pieces together. Here again, such a complete puzzle can provide the data necessary to design curricula for training programs aimed at workplace behavior change and policy buy-in.

Discussion

Affordances of Non-Formal Interviews

Case data analysis yielded four critical affordances of non-formal interviews: contextually embedded insights, real-time data capture, a reduction of formal interviews' reflective buffer, and greater adaptive flexibility for data collection in-situ. By methodologically combining shadowing, observational conversations, and active (rather than passive) researcher participation, non-formal interviews allow more direct access to contextually embedded workplace practices as they unfold in real-time, as a supplement to participants' recollections and retrospective interpretations. This access also

affords immediate situational probes into workplace practices. Unlike traditional interviews, which depend on memory and post-hoc reflection, non-formal interviews capture workplace dynamics as they actually unfold. This immediacy is particularly valuable in fast-paced or complex work environments, where the context surrounding actions and memories about events can be as critical as the actions themselves when developing vocational language training or changing workplace behaviors.

Above all, non-formal interviews minimize the reflective buffer that typically shapes formal interview responses. By posing questions at the moment—such as "Why did you do that?"—researchers obtain responses that emphasize the immediate, practical logistics of task execution rather than broader reflections. However, it also risks making a mountain of a molehill; triangulating these granular insights through reflective formal interviews helps keep perspective on the data in focus.

Figure 1. Workplace Settings; Source: author.

Lastly, the adaptive flexibility of non-formal interviews further distinguish them from more rigid, structured interview formats. In workplace environments, where tasks and interactions are dynamic and often unpredictable, this adaptive flexibility allows capturing and engaging with emergent workplace complexities as they arise. Its model interface—which, like all interview models, enables the elicitation of relevant data and the avoidance of non-relevant data—can be sensitive and responsive to emergent data onsite and register potentially essential workplace performance insights that might be forgotten or not come up during a more formal interview.

These affordances make non-formal interviews a powerful IDR tool, especially in workplace settings where the objective is to develop interventions leading to behavioral change and policy buy-in. By dynamically mapping participant workplace realities, non-formal interviews facilitate discovery of otherwise unexpected or emergent insights that align intervention design with workplace learning strategies that are relevant, responsive, and grounded in real-world practice.

Onsite Interactions

Non-formal interviewing captures instances of contextually embedded data—including, in the present case, customs officers' interactions with tourists. For example, the researcher observed one officer asking a tourist, "Sir, I check, please. Open, please. I need the customs form, please," as a real-time example of actual English use during the officer's daily routine. It is unlikely this exact phrasing—the phrasing that was used during the interaction—would be captured in a formal interview.

Non-formal interviewing also transforms observational data. That is, when documenting a workplace's physical layout (see Figure 1)—noting the placement of screening machines, conveyor belts, and the customs checkpoint, as well as the presence of signage in English and Spanish—such descriptions do not simply add further context or afford a richer, more immediate understanding of the workplace environment and the demands it places on the officers. Rather, these situational details arise in non-formal interviews as part of the immediate interactive process with participants.

Capturing emergent real-time data usable for immediate situational probes is one of non-formal interviewing's most significant benefits, especially for vocational language use. This disclosed how officers' partly specialized but mostly conversational language use actually looked in practice, e.g., not only how they would translate Spanish forms into English in real-time, but also how they could take the opportunity to improve their conversational English. This is particularly evident in the interaction between Katherine and the captain of a sailboat, which demonstrates how officers must negotiate language barriers in high-stakes situations. From the field notes:

> Katherine requested the captain complete a form, printed in Spanish or English, with information concerning his personal background as an applicant, the watercraft details, and others. She engaged in a short conversation with him, trying to furnish him with as much information as she could in English by answering two questions he asked about the requirements in the form. The captain handed her several documents, some in Spanish or English only.

In that conversation, Katherine had to confirm the accuracy of bilingual forms and guide the captain through the complexities of the sailboat's release procedure. The captain, an English-speaking traveler, was at times unfamiliar with the Spanish segments of various documents, so Katherine had to step in to interpret and clarify the necessary steps. By doing so, she exemplified how real-time translation and conversational skills actually play out, in contrast to how she might have recalled it behind the reflective buffer of a formal interview. The real-time details of this process become crucial for preventing misunderstandings or delays for tourists, especially in high-stakes transactions where legal and financial implications loom large.

Non-formal interviews can also complement any reflective buffering that occurs in formal interviews, affording real-time triangulation for any immediate, practical logistics of task completion. Spon-taneous conversations with working officers about onsite issues provided direct insights into their concerns and approaches to their tasks and could differ in emphasis and content from reflections during formal interviews. For example, one officer's remark onsite about staffing shortages was more colored by frustration than similar remarks in the interviews, in which shortages were framed more as inevitabilities ("What can you do?") resulting from upstream management. The researcher's presence during luggage inspections and goods retention procedures further disclosed officers' decision-making processes as they happened. From the field notes:

> Katherine explained how they analyze the screens' colors to help detect possible unauthorized items in travelers' bags. I stood beside her, taking notes while observing her screen, luggage going through the scanner, and tourists interacting with her. I was trying to understand the dynamics of interaction in English between Katherine and the tourists at the customs checkpoint while she collected customs declaration forms from them.

In another instance, Keylor explained that officers inspect luggage when items on the scanner appear different from those meant for personal use. Hernan emphasized staffing limitations at checkpoints, which prompted Keylor to explain how officers from other departments assist when needed. From the field notes:

> During my observation, Hernan called my attention to the luggage screening procedure. He remarked on the lack of customs officers helping per line. He said there were usually just one or two customs officers at the checkpoint, even though two or three lines might be open. Consequently, other officers [not customs officers] collaborated to collect customs declaration forms whenever customs officers were busy or absent.

Unlike formal interviews, non-formal interviews can immediately capture officers' emergent concerns through spontaneous remarks and in-the-moment insights. Unfiltered by the reflective distance of more formal settings, this affords an adapt-

ability of data collection to workplace dynamics, allowing the researcher to shift between observation, note-taking, direct engagement, and making immediate research-driven inquiries into onsite behaviors and decision-making. The key distinction from shadowing as a technique is the researcher's potentially active intervention into what is being observed (including direct questioning based on the research's questions).

However, like any model interface, care must be taken when using it. The onsite presence of a researcher changes the environment—both for the officers and the people passing through the checkpoints. Leveraging that opportunity while blunting any emergent "downsides" requires (1) establishing rapport with the officers, (2) later triangulating and cross-checking emergent data with follow-up (including from formal interviews), and (3) ensuring the researcher is an unobtrusive and regular presence to travelers. A situation in which a researcher assumed the role of a customs officer in training (supervised by the officer being observed) might represent an almost perfect implementation of this scenario.

While non-formal interviewing draws on already-established techniques, its combination of those elements, guided in real-time by the research's questions and sensitivity/responsiveness to emergent data, unlocks the approach's strengths. Treating the researcher's onsite presence as an opportunity, not a liability, is both necessary and an interesting area of future research to explore what situations, barriers, and emergent effects such presence generates.

Communication Functions in Routine Tasks at Customs Checkpoints

This paper's proposed use of non-formal interviews focuses explicitly on vocational English language acquisition. In particular, it affords the collection of in-situ language use data, e.g., "Sir, I check, please. Open, please," as distinct from reported memories or aspirational use of language (captured in formal interviews). Or, as one officer reported:

> My English should be conversational, but certain vocabulary should be technical. It has to be conversational since I must have the knowledge to respond to a traveler in a friendly manner. For example, I should not be so direct when giving instructions at all times. Also, in luggage retention or money seizure cases, I must conduct myself with a certain etiquette so that the dialogue takes a certain formality. For me, the traveler must feel comfortable and safe. Additionally, I must have technical knowledge to address these issues and demonstrate professionalism and formalism in certain situations.

Alongside customs' security requirements, officers were keenly aware of an element of customer relations, especially that English-speaking tourists to Costa Rica did not have an unpleasant or discouraging experience entering the country. Officers regularly stressed their awareness of their job's importance for national safety and tourism (see Table 1).

Table 1. Reasons for learning English

Reason	Number of Responses (n = 44)
I want to do a good job	16 (36.4%)
I need it for work	7 (15.9%)
I want to understand travelers better	7 (15.9%)
I like English	6 (13.6%)
I like using new technology	5 (11.4%)
It's a personal goal	2 (4.5%)
I don't want to rely on others	1 (2.3%)

Officers' keen awareness about interactions at the customs checkpoint denotes an interface: one intended to elicit certain interactions (security, positive experiences) avoid undesirable ones (security breaches, unpleasant experiences), while always ready for unpredictable, on-the-fly, emergent events. The officers' desire for conversational workplace English fluency not only adds to incoming English travelers' positive experiences but also avoids negative (even

discriminatory) impressions about a people or a place due to perceived linguistic non-fluency and accent (Freynet & Clément, 2019; Lippi-Green, 1997).

As the officers explained, and as I observed, their occupational English use typically involved brief verbal exchanges with travelers in a fast-paced work environment (whether the interaction itself was straightforward and typical or involved more complex customs issues). While sticking professionally to the task at hand, this brevity of language use (see Table 2 below) also risks seeming curt or stern in a way that more conversational warmth might avoid. Because shorter utterances can be associated with lower levels of fluency (Lu, 2010), being more conversationally expressive in English would better meet the officers' desire to achieve their most-reported goal: to do a good job. Non-formal interviewing affords collecting real-time instances where conversational warmth could augment professional brevity.

Table 2. Example routine questions

Scenario	Dialogue
Ex. 1: Requesting documents	Customs officer: Customs paper.
	Arriving tourist: [they hand a customs form]
	Customs officer: Okay. Thank you.
Ex. 2: Asking questions	Customs officer: This way, please. Can I see that one?
Ex. 3: Answering questions	Arriving tourist: Do I have to take the liquids out?
	Customs officer: No problem.
Ex. 4: Giving instructions	Arriving tourist: [they put one bag over another]
	Customs officer: Separate.
Ex. 5: Explaining a personal exemption	Arriving tourist: So, it shouldn't go over US$500?
	Customs officer: That's correct.

Higher stakes occur when the checkpoint interaction complexity increases, either due to the traveler's lack of understanding or because the customs procedures are more complex. One officer reported:

I usually collect customs declarations and check that they are complete. I also scan and screen the contents of travelers' suitcases and, if applicable, carry out an inspection of their contents. In case of a personal exemption, I tell travelers that I will stamp their passport. That is in case they bring goods that we consider not for personal use. I like to explain personal exemptions, and if travelers are bringing merchandise beyond the USD$500 limit allowed, I proceed to retain their bags and explain the process for their claim.

As the officers explained, and as I sometimes observed, tasks varied by complexity and could require lengthier interactions (see Table 3). This places more pressure on workplace English fluency to ensure that the security issues are properly addressed while the experience remains positive for the officer and traveler alike.

Table 3. Difficulty of Occupational English Routine Tasks

Routine task	Degree of Difficulty		
	High	Moderate	Low
Explain customs clearance*	14	3	1
Explain currency forfeiture**	13	2	-
Explain currency declaration*	7	4	1
Explain a personal exemption*	5	10	3
Request information about merchandise*	4	14	3
Request a customs form*	-	3	16
Request a passport*	-	3	2
Instruct how to lay bags*	-	1	3
Explain free-trade zone importation**	1	-	-
Explain a temporary importation of equipment*	1	-	-
Explain firearm and ammunition forfeiture**	1	-	-
Explain in-transit merchandise**	-	1	-
Explain a temporary importation of vehicles**	-	1	-
Totals	46	42	29

*Personally observed onsite;

** Described in interviews and conversations

Recommendations

A tension between immediate functional communication needs and longer-term language proficiency development for workplace success was evident. While formal K-12 English afford structured learning over time, vocational English classes for adults must accommodate not only a workplace's highly specific, task-oriented language but also the emergent, unpredictable interactions impacting customer service aspects of checkpoint interactions. As an interactive interface, officers would ideally have what Ashby (1956) termed a "requisite variety" of English fluency. Requisite variety is an interactive system's capacity to effectively "handle" the full range of situations it can encounter. This ideally would result in checkpoint interactions that reliably meet the desired outcomes—security and positive traveler experiences—while avoiding negative ones—security breaches and unpleasant traveler interactions—even when emergent, unexpected situations occur.

Self-evidently, not even fluent native speakers of English can perfectly prepare to handle every imaginable and unexpected checkpoint scenario, but recall that an model interface always "works," whether its outcomes are useful or not (Box, 1979). For example, an officer might simply rubber stamp every traveler who comes through without reviewing their documentation; this model example of "working," generates an undesirable outcome. Similarly, a customer service representative might rigidly obey "the customer is always right" and successfully de-escalate unpleasant situations without upholding or explaining company policies.

In the same way, the behavioral constraint of customs officers' limited English proficiency may afford pleasantly handling travelers' routine checkpoint interactions but fall short when confronted with ambiguous or higher-stakes situations—such as unexpected security concerns, complex declarations, or unpleasant passengers unpleasantly disputing or confused about regulations. Because customs officers' roles demand both regulatory enforcement and customer-facing interactions, without sufficient requisite variety, officers risk defaulting to rigid behaviors and language use that either inadequately address security concerns or create unnecessary friction with travelers. The challenge, then, is not achieving an unattainable level of verbal fluency able to handle what any traveler presents but a language use that can steer the largest number of situations encountered toward the desired outcome of secure borders and satisfied travelers.

Unfortunately, workplace English learners must often rely on informal, experiential, and peer-driven learning to adapt to situations; customs officers would report how they would tap the greater English proficiency of peers in tricky situations. In this respect, staffing shortages are disclosed not simply as frustrating additions to officers' workloads but a potential loss of English help-seeking that colleagues would otherwise afford. It is difficult to say in retrospect if this fact would be so clear without onsite observation. However, it also illustrates how vocational language instruction approaches must "fit" practical, high-pressure workplace stakes, where errors can have professional, legal, and national consequences.

As language's most fundamental use is coordinating behaviors with others (Maturana & Varela, 1987), focusing IDR on this coordinating function—not solely on language content or fluency—can increase the requisite variety and responsiveness of customs officers facing simple, complex, and unexpected situations at checkpoints. Based on this paper's insights, it is necessary to (1) integrate non-formal interviews into IDR for workplace language learning, (2) design workplace English training to enhance requisite variety, (3) leverage workplace peer learning as an essential resource, and (4) prioritize context-specific, behavior-oriented language instruction. Doing this requires a structured yet flexible approach, such as the four interrelated steps below. These steps formalize what was previously practiced ad hoc or only implicitly and offers an invitation for future researchers to implement, refine, and expand upon.

- **Dual-stream data collection**: Ideally, collect data through two independent channels: one explicitly structured around the study's research questions, the other capturing raw data without that framing. Two researchers most easily achieve this, each assigned to one channel and swapping roles between sessions. The "raw" data collector should incorporate the other researcher's activities into their observations. If only one researcher is present, field notes can be categorized separately in "lensed" and "raw" columns. If ethically permitted and feasible, video or audio recordings can capture actual language use.

- **Holistic observation**: Non-formal interviewing structures onsite observations, probes, and activities as a systems view of four key questions: (1) What workplace elements elicit and support participant actions (productive or otherwise)? (2) What factors help avoid of undesirable actions (whether productive or not)? (3) What emergent, unexpected dynamics are occurring; (4) how is the workplace's requisite variety responding—adequately or not?

- **Collaborative experimentation**: Researchers and participants jointly brainstorm a small, participant-driven behavioral change to test onsite during a shift. Afterwards, debriefing reflects on the change's pros, cons, and unintended effects. Ideally, these micro-interventions serve as models for ongoing workplace improvements, empowering participants to refine, expand upon, or invent others, even after the study concludes.

- **Reflexive calibration**: Reflexive calibration extends researcher reflexivity by **incorporating participant interactions into that reflexive process.** This involves participant-researcher discussions on three aspects: (1) how non-formal interviewing is eliciting the desired data, (2) how it is avoiding undesirable disruptions, and (3) what unexpected changes have emerged from the process. From these reflections, the non-formal approach is then adjusted to better align with (a) IDR's goal to improve the workplace, and (b) the research's goal to answer its study questions.

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НЕФОРМАЛНИ ИНТЕРВЈУ КАО ИНТЕРФЕЈС МОДЕЛ: ПРИМЕР ДУБОКОГ УЧЕЊА У ИСТРАЖИВАЊУ ИНСТРУКЦИОНОГ ДИЗАЈНА ЗА ПОТРЕБЕ ЗАПОСЛЕНИХ

У овом раду испитују се неформални интервјуи као метод за квалитативно прикупљање података у истраживању инструкционог дизајна (енг. *Instructional Design Research – IDR*), нарочито у контексту целоживотног учења на радном месту. Традиционалне квалитативне методе, као што је формални интервју, ослањају се на ретроспективна размишљања, која могу да прикрију сложеност учења на радном месту и промене понашања у реалном времену. У овом истраживању предлаже се неформални интервју као модел за стицање непосредних, контекстуално осетљивих увида у употребу језика на радном месту, изазове у комункацији и међусобну интеракцију запослених. Ослањајући се на студију случаја о курсу стручног енглеског језика за царинике на аеродрому у Костарики, у раду испитујемо како истраживање у реалном времену може да побољша методологије инструкционог дизајна за обуку на радном месту.

Утемељена на критичком квалитативном истраживању (Creswell, 2013), ова студија доводи дискусију о истраживању инструкционог дизајна на нови ниво (Shernoff et al., 2020), истичући дубоко учење у професионалном окружењу (Jones & Sharma, 2021). Учење на радном месту захтева динамичне интервенције које су вођене понашањем (Gunderson, 1999; Bello-Bravo et al., 2022). Међутим, постојеће методологије истраживања инструкционог дизајна у великој мери ослањају се на формалне интервјуе који доводе до рефлективног застоја – јаза између самог догађаја и онога чега се учесници сећају (Seidman, 2013). Ово кашњење може да замагли спонтане увиде до којих се дошло у тренутку, на лицу места, који су важни за уочавање изазова у учењу у стварном времену. Наше истраживање у складу је са истраживањима која наглашавају неопходност флексибилних и прилагодљивих метода прикупљања података у професионалном окружењу (Lobe et al., 2020) и надовезује се на раније радове о учењу на радном месту (Holland, 2019).

Користећи аутоетнографску студију случаја (Ellis et al., 2011), аутор овог рада је поново прегледао претходна истраживања о аеродромским цариницима у Костарики који сваког дана комуницирају са путницима који говоре енглески језик, али им недостаје формално учење енглеског језика струке (Rojas-Alfaro, 2021). Неформални интервјуи коришћени су за документовање стратегија комуникације на радном месту и прилагођавање кроз:

- **Праћење** – Посматрање царинских службеника док обављају радне задатке, комуницирају са путницима, испуњавају захтеве које им радно место намеће, мапирање коришћења страног језика у стварном времену.

- **Опсервацијске разговоре** – Ситуациони, неформални дијалози са царинским службеницима који подстичу на тренутно размишљање о језичким препрекама и потребама у погледу обуке.

- ***Сарадњу учесника и истраживача*** – *Прилагођавање фокуса истраживања као од-говор на постојећу стварност на радном месту, омогућавање царинским службе-ницима да заједно конструишу знање о употреби страног језика на радном месту и предлажу решења за обуку.*
- *Кроз овакву интеграцију неформални интервјуи повезују структуриране интер-вјуе са уграђеним етнографским методама (Hamada, 2019), побољшавајући ква-литативне увиде, еколошку валидност и инструкционе интервенције прилагођене професионалним потребама.*

Истраживањем су идентификоване четири кључне могућности које неформални ин-тервјуи пружају у погледу инструкционог дизајна на радном месту:

1. ***Прикупљање података у стварном времену*** – *За разлику од формалних интер-вјуа, који се ослањају на памћење, неформални интервјуи „хватају" динамику рад-ног места из трена у трен, пружајући јасну слику о томе како се обављају радни задаци и како се користи језик.*

2. ***Смањење рефлективног застоја*** – *Постављањем питања док се обавља одређени задатак (нпр. „Зашто сте то управо урадили?") добијају се одговори засновани на непосредном искуству на радном месту, а спречавају накнадне рационализације.*

3. ***Прилагођавање специфичностима радног места*** – *Неформални интервјуи узи-мају у обзир динамику окружења, документујући језичка прилагођавања као одго-вор на захтеве радног места и професионалну праксу која се развија.*

4. ***Увиди стечени на основу одговора учесника*** – *Путем праћења и учествовања у разговору учесници су активно обликовали истраживачки процес, бацајући светло на хитне потребе у погледу обуке из стручног енглеског језика које би у формалним интервјуима можда остале неоткривене.*

Како би боље научили енглески језик, цариници су се често ослањали на неформалне стратегије учења, као што су разговор са колегама и спонтано играње улога са путници-ма. Ови налази наглашавају потребу за моделима инструкционог дизајна који подржавају учење на радном месту у реалном времену, уместо ослањања на унапред припремљену обуку која се заснива на раду у учионици. Праћење и опсервациони разговори пружају суштинске повратне информације за усавршавање програма обуке, обезбеђујући већу релевантност и ангажованост.

Поред тога, у раду се наглашава етичка димензија истраживања у реалном време-ну у инструкционом дизајну, уз истицање да транспарентност, ангажованост учесника и академски интегритет морају да буду од највећег значаја како би се осигурало да се при-ликом прикупљања података поштују професионалне границе, а да стечени увиди буду применљиви. Формализујући структурирани, али флексибилни, приступ неформалним ин-тервјуима, ово истраживање пружа методички модел који може да се прилагођава другим контекстима учења на радном месту, чиме се обезбеђује да истраживање инструкционог дизајна и даље одговара професионалним изазовима у стварном свету.

Кључне речи*: истраживање инструкционог дизајна, енглески језик струке, нефор-мални интервју, праћење, царинска служба на аеродрому*