

In Country with *Tactical Iraqi*: Trust, Identity, and Language Learning in a Military Video Game

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ABSTRACT

This paper discusses *Tactical Iraqi*, a video game developed at the University of Southern California with funding from the U.S. military that is designed to accelerate a learner's acquisition of spoken Arabic to assist in the rapid deployment of soldiers into volatile tactical situations. This paper analyzes three distinct aspects of the *Tactical Iraqi* mission game: how "trust" is constituted in both virtual and experimental worlds, how digital experiences of the "self" of language learning are constructed as complex amalgams of "identity," "role," "subjectivity," and "voice," and how sometimes problematic ideologies of language learning and literacy inform the design philosophy of the game.

Categories and Subject Descriptors

H.5.1 [Information Interfaces and Presentation]: Artificial, Augmented, and Virtual Realities

General Terms

Design, Human Factors.

Keywords

Foreign language learning, computer game, intelligent tutoring, digital experience.

1. INTRODUCTION

Tactical Iraqi, a language-learning software course and educational video game, is currently being developed for widespread use by U.S. military personnel. It originated at the Center for Advanced Research in Technology for Education (CARTE) at the Information Sciences Institute of the University of Southern California. Researchers at CARTE had previously authored a range of imaginative but seemingly disconnected distance learning initiatives that featured computer generated animated agents, software capable of expressive speech analysis and synthesis, and programs organized around the presentation of pedagogical drama.

After the 2003 U.S. led invasion of Iraq, it became possible to test large-scale applications of CARTE research to the problem of foreign language learning. A critical shortage of Arabic speakers existed in the U.S. armed forces, and the theater of conflict was coalescing around stressful and confusing situations of urban warfare, military occupation, and post-conflict reconstruction in the face of persistent insurgency. The current version of *Tactical Iraqi* includes elements of traditional computer-based tutorials

and language recognition software, a PsychSim multi-agent system, and an *Unreal Tournament 2003* game engine.

Tactical Iraqi is envisioned as part of a larger Tactical Language Training System (TLTS) under the umbrella of the DARPA Training Superiority program, which is intended to develop "just-in-time" training technologies incorporating intelligent tutoring, simulations, and games into preparation for combat readiness. Another "just-in-time" military video game, *Ambush!*, was launched even more rapidly -- after just six months -- to assist soldiers in locating roadside dangers, such as improvised explosive devices (IEDs), whose presence could be signaled by anything from a seemingly innocuous dead camel to an electric toy [36]. Like *Tactical Iraqi*, *Ambush!* took advantage of an existing platform, the commercial game *Operation Flashpoint*, and used this networked multiplayer system to realistically model interactions between members of a military convoy.

The Mission Game (Fig. 1) of *Tactical Iraqi* is an interactive story-based 3D game where learners practice carrying out a designated mission through a specific avatar, Sergeant John Smith. In an earlier version of the game, the mission was to rebuild a damaged water plant with the assistance of a "Shiite leader of uncertain loyalties" [24]; the present iteration involves rebuilding a girls' school [8]. The game uses a "third-person shooter"-style interface that is limited to input from a keyboard, microphone headset, and mouse. As John Smith, the player navigates through a computer generated landscape of streets, cafés, and private homes that are rendered with naturalistic lighting, texture mapping, and modeling of 3D masses. He is also able to interact with flat objects, such as business cards or photographs, and those rendered in three dimensions, such as eyeglasses or cups of tea.

In addition to this virtuosity of "perceptual realism," the game is intended to have what Alison McMahan has called "social realism," which she describes as being constituted by "organizing rituals and ceremonies" [23]. Many of the rites in the game involve formulaic greetings and the social consumption of nonalcoholic beverages, along with their associated practices of rhetoric.

Negotiating through John Smith's transitions from public to private spaces via his *Unreal Puppet* poses particular challenges to verbal and nonverbal communication, particularly when trust is limited and the action takes place on a stage with multiple spectators, all potentially antagonistic when given the wrong cues. The learner's limited language proficiency can restrict access to certain critical spaces, and even in the public zone of the *agora*,

the environmental bubble where cultural exchanges and mutual appropriation is permissible according to Ostwald [27], John Smith is subject to humiliation that can be reported back to his superior officers and to verbal abuse by native speakers that can include being called a “son of a bitch” (or literally “dog son of a dog”) or a “donkey.” To help John Smith in his mission, there are no weapons or martial arts tricks available; the player’s only tools are spoken words and gestures. Fortunately for Smith, an Arabic-speaking female member of the squad can prompt appropriate responses and make suggestions.

Paralinguistic learning is an important aspect of the Mission Game, because in the rhetorical situations that the designers of *Tactical Iraqi* have envisioned, the cultural meaning of particular gestures can have consequences as speech acts. Some of these connections between paralinguistic signifier and signified would even be counterintuitive to U.S. military personnel. For example, a “thumbs-up” can have a highly insulting inverse meaning [8], while removing one’s eyeglasses demonstrates knowledge of a regionally-specific gesture of respect.



Figure 1. Asking for information from two pedagogical agents in the Mission Game

The Skill Builder (Fig. 2) is a set of interactive exercises organized around practice drills in the target language, in which learners say words and phrases and listen to and respond to sample utterances. Vocabulary is chosen to be appropriate for the social context. A virtual tutor evaluates the learner’s pronunciation and syntax and gives feedback that provides encouragement and forestalls negative affectivity in the learner.

The Skill Builder initially proved to be an important factor in achieving measurable improvement in the learning outcomes of military experimental subjects post-test [18]. Nonetheless, the literature on language learning indicates that such an approach would be incomplete on its own. For example, in evaluating foreign language multimedia software, Plass has argued that task-based, problem-solving, and role-playing activities that encourage critical thinking around decoding and selection are desirable [30], and Dougherty and Long similarly make the case for task-based psycholinguistic environments [10].

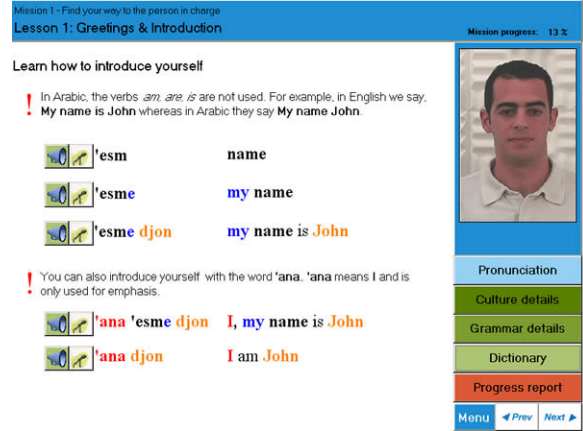


Figure 2. A coaching section in the Mission Skill Builder

A speech-enabled Arcade Game (Fig. 3) gives learners further practice opportunities in Arabic. In the Arcade Game rapid response time is more important than it is in the Mission Skill Builder or the Mission Game. Principal Investigator Lewis Johnson also concedes, “You had to put in something you blow up” to provide an enjoyable video game experience. In the Arcade Game, objects can be picked up by correctly naming directions, and “enemy” elements of different colors periodically appear to be destroyed. Although ostensibly intended for speeding up the acquisition of prepositional and descriptive phrases, the Arcade Game has none of the social interactions that are simulated by the Skill Builder or the Game and directly equates linguistic competence with destructive force. Early virtual theorist Janet Murray writes that this kind of digital experience is particularly compelling, because arcade-style action provides a “tight visceral match between the game controller and the screen action. A palpable click on the mouse or joystick results in an explosion. It requires very little imaginative effort to enter such a world because the sense of agency is so direct” [26].



Figure 3. The aerial view of the speech-enabled Arcade Game

In addition to these photorealistic arenas of play -- from third-person, first-person, and God's eye viewpoints respectively -- the learner has a number of other resources available. The Web Wizard provides a hypertext with English translations, an overview of the structure and elements of a sentence, and notes pertaining to Arabic syntax and grammar for learners interested in exploring the structure and meaning of words and phrases. The MP3 Player Kit allows learners away from computers or visual cues to review audio files with the lessons' words and phrases to reinforce correct pronunciation and fluency.

Yet the learner is not truly independent. He or she knows there is constant surveillance by other stakeholders in remote locations. The experimenters and potentially the player's commanding officers can compare the player to other learners with specialized tools. The Performance Assessment Module collects data at each learner's machine, transmits the information to a central TLTS database, and produces individualized performance scorecards with multi-dimensional benchmarks based on aggregated data.

2. COGNITIVE DISSONANCE AND DOUBLE VISION IN NEW MEDIA

For rhetoricians who study new media, a program like *Tactical Iraqi* immediately raises a number of red flags. First, the game engine comes from the ultra-violent *Unreal Tournament* series in which opponents are dehumanized alien life forms and annihilating weaponry is central to game play. Without initial access to the source code, the development team at ISI's CARTE told reporters that it took the game designers working on the *Tactical Iraqi* mod almost eight months to remove all the coding that directed graphic displays of violence or gore. Even after it appeared that the entire *Unreal* arsenal of weapons had been confiscated, Principal Investigator Johnson admitted that "one of the testers discovered that if he stomped on other characters, they would explode in blood and guts" [14]. Game designers have since acquired a source license for the *Unreal* engine and are currently removing all *Unreal Tournament* content. Yet it is certainly possible that more subtle features of the substrate of combative spectacle could remain undisturbed and that the theatrical perspective of the game itself distances the subject from his or her linguistic interactions and reinforces a logic of spatial domination rather than one of participation in literacy as a form of mutual social exchange.

Second, the computer generated animated pedagogical agents of *Tactical Iraqi* are incapable of speech acts that are not scripted by the U.S. military; for all their sophisticated AI they cannot ask the learner hard questions about the unpopular geopolitical agenda being pushed by U.S. policy makers in the Middle East, a species of verbal challenge that native Arabic speakers might more easily pose in "live" face-to-face situations. Although project documents tout the fact that each pedagogical agent comes equipped with "its own goals, private beliefs, mental models of other characters, and evolving relationships with and attitudes towards other characters (including the learner)" [34], pedagogical agents are provided with few persuasive tools that might prepare learners for serious challenges to U.S. political ideology or better engage learners in substantive critical thinking about cultural difference. Pedagogical agents who manifest resistance can do little more than shout "CIA!" at Smith. Even Hasan, a character who asserts that it is "impossible to accept

America's occupation of Iraq" is given nothing to say beyond this relatively undeveloped objection.

Third, *Tactical Iraqi* can be read as representative of the current U.S. "Military-Entertainment Complex" in which entertaining military-style simulations seemingly generate real acts of violence and coercion in the developed and the developing world [24, 28, 34]. Although the game is explicitly nonviolent, *Tactical Iraqi* provides the soldier with an interpretation of remote political actors and settings that reshapes their indigenous meaning. By simulating complex socio-linguistic interactions in such a cartoonish form, the program risks further replicating the "hyperreal" within the current dynamics of Iraqi occupation, just as Baudrillard's "precession of simulacra" would predict [2].

As one DARPA researcher observes, "The idea is to put behind every steering wheel and behind every trigger finger in a foreign country a little bit of that culture and language" [34]. The possibility that a "little bit" of "culture and language" can counterbalance the powerful tools for control and domination that are represented by the synecdoche of the "trigger finger" or "steering wheel" is encouraging, but verbal and physical aggression are still potentially linked by a logic of substitution that can be seen as an implicit legitimization of armed force.

3. HYBRID GENRES AND SERIOUS PLAY

Yet *Tactical Iraqi* is not a conventional military combat game. It does not express values of selflessness or heroism or even loyalty to the nation-state. Other military simulations, whose pedagogical potential has been championed by James Paul Gee, such as *Full Spectrum Warrior* [13] and *Medal of Honor Allied Assault* [12], appear to emphasize how strategic choices by key personnel and commanding officers affect other agents in the game, and that in situations of extreme risk it is sometimes necessary to make difficult utilitarian calculations to preserve team members and to foster ideologies of loyalty or patriotism. In many ways, however, the other members of Smith's squad are less important for his success in the mission than the Iraqi civilians he encounters, independent agents upon whom he depends for local cooperation and material supplies. As an agent of reconstruction, not of combat, Smith is put in a difficult position from the outset of the game. In the background narrative, it is explained that the girls' school Smith is rebuilding was actually damaged in a firefight between an American patrol and Fedayeen fighters. Thus Coalition forces nominally assume responsibility for the civilian consequences of combat in the world of the game.

Furthermore, although the architecture and topography of the virtual world exploits the surface realism of the *Unreal Tournament 2003* game engine, *Tactical Iraqi* does not attempt to recreate actual locations in Iraq in its 3-D environment. Despite the fact that game designers worked from photographs of remote locations in the Middle East, the experience of "virtual tourism" is constrained. *Tactical Iraqi* does not attempt to recreate specific buildings or landmarks, unlike the simulated doubling of specific public spaces from foreign countries in games like *Tony Hawk's Underground 2*.

To maximize relevance for mission-transference, it was apparently necessary for the designers of *Tactical Iraqi* to create a sufficiently generic Iraqi playscape to prepare soldiers who could

be deployed anywhere in the country. Elements of an earlier game set in Lebanon, *Mission to Arabic*, were also part of the design history of *Tactical Iraqi*, so that the game may unintentionally further a digital experience of postmodern cultural pastiche. Moreover, researchers plan to apply the *Tactical Iraqi* game to other contexts in the Middle East and even intend to offer instructional modules in other languages, such as Pashto, which would be designed for service in Afghanistan, where the natural ecology and man-made space is very different from Iraq.

Just as the setting discourages virtual tourism, so do the characters. *Tactical Iraqi* differs significantly from commercially-produced language learning software that features interactions with digital characters in circumstances of virtual travel, although these language learning programs incorporate similar speech recognition technology so that the learner may converse with the program's computer generated characters. The on-screen interlocutors who populate programs like those developed by the *Living Language* series sit docilely behind ticket counters or hotel registration desks; they never do more than register polite confusion when the learner struggles with pronunciation or syntax, because interactivity is limited to polite exchanges. In contrast, autonomous pedagogical agents in *Tactical Iraqi* may shout at the learner's avatar or make angry accusations or threaten the learner's avatar with physical harm.

4. TRUST IN PLAY

4.1 Beyond Zero-Sum Strategy: Rejecting Hobbesian Skepticism for Interdependence in Micro and Macroworlds

In his 1979 classic work on geopolitical theory, Charles R. Beitz explores the analogy of moral conduct between persons to that between nation-states [3]. Following his line of reasoning, Beitz locates three major strains in the history of the political philosophy of international relations: Hobbesian skepticism, intermediate theories of autonomy, and our contemporary understanding of global interdependence.

Certainly, some video games operate from the radical perspective of total Hobbesian skepticism and exploit kill-or-be-killed misanthropic assumptions. These games construct a virtual drama in which it is always better to engage in pre-emptive aggression if social actors lack reliable guarantees of mutual respect and cooperation. In the dominant culture of the United States, it could be argued, this logic is replicated in everything from reality television based on the contestants' cut-throat strategies as "survivors" to presidential speeches about "preventative war."

Nonetheless, the rise of cooperative games, MMORPGs in particular, has dramatized the benefits of the social contract and interdependence in online gaming and perhaps in digital experiences more generally. Combat may be equally bloodthirsty in many games, but players discover the obvious advantages of maintaining social bonds, fostering situations of trust, and bringing others in their cohort back to life in situations of duress.

Games like *Tactical Iraqi* have the potential to connect the personal to the political and to integrate the actions of individuals engaged in particular speech acts with the rhetoric of the nation-states that they represent. Such games could conceivably represent the forefront of an emergent social realism that

Galloway argues is essential if video games are to be recognized as a mature aesthetic form and as an ethical expression of artistic communication and mass instruction [11].

The world of *Tactical Iraqi* is not a zero-sum game. The success of John Smith depends on his satisfying the social needs of others. In fact, his "health" in the game is measured by the attitudes of the other autonomous agents on the screen. Trust is both the precondition of play and the currency of the game in mimetic and diegetic play. Although it is intentionally a simplified abstraction of the mental state of the agents, the trust-meter demonstrates the importance of a central assumption of linguistic exchange. As Brown and Levinson have said, citing Lewis, "No one could even learn a language in a society where there was an assumption that no one told the truth" [4].

Ironically, different scenarios of trust played out not only for the virtual John Smith but also for the real life military players who were asked by their superiors to engage in this particular form of digital experience and risk failure in uncomfortable situations of rhetorical and interpretive vulnerability for which they were sometimes profoundly unprepared.

4.2 Reluctant Players

Despite widespread cheerleading for the tremendous potential of video game learning [12, 32], preference for this particular medium of instruction is far from universal at present. Research has shown that even when video games are enormously popular with a particular instructional demographic, such as undergraduate students [20], it does not follow that the players themselves perceive any connection to learning or expressly desire educational content in play.

Thus, the initial trust problem encountered by *Tactical Iraqi* researchers involved players who avoided the game space entirely when using the program, often by hiding out in the Mission Skill Builder. Project documents indicated that "the learners were generally reluctant to start playing the game, because they were afraid that they would not be able to communicate successfully with the non-player characters" [17]. In fact, rather than anticipating that play would be a pleasurable experience, "Learners usually started playing the game only when experimenters insisted that they do so" [17].

To overcome this problem, researchers focused on replicating introductory social rituals in the virtual environment and applying forms of conventional etiquette to the world of the simulation. As the research team from *Tactical Iraqi* writes, "We found that if the experimenter introduced them directly to the game and encouraged them to try saying hello to one of the characters there, they got engaged, and were more confident to try it" [18].

4.3 Cheat Codes

When asked to engage in game play by researchers and commanding officers, another group of players chose to merely "game the system," which could be seen as a less explicit form of refusal to participate fully in play.

Experimenters found that test subjects often engaged in collaborative activities that postponed rather than promulgated learning. A project paper about the evaluation of *Tactical Iraqi* records this unanticipated initial outcome: "The Mission Game was not able to recognize the full range of relevant utterances that

subjects were learning in the Skill Builder. This and the fact that there are only a limited range of possible outcomes of the game when played in beginner mode gave learners the impression that they simply needed to memorize certain phrases to get through the game. After the first day the subjects showed up with printed cheat-sheets that they had created, so they could even avoid memorization.” [18]

Like gamers who aspire to simply exploit a system’s shortcuts by relying on “cheat codes” to arrive at the conclusion of the game more rapidly [29], these Fort Bragg soldiers had decided to take advantage of systemic loopholes and subvert the very learning process that others might undertake in good faith.

4.4 Transgressive Play

Although subversive game practices may seem similarly undesirable to educators who uniformly value attentive obedience, from a certain pedagogical perspective, the category of transgressive play is fundamentally different from the category of cheating. In his essay on *Tomb Raider*, James Gee claims that transgression is actually central to effective learning and that defiance of authority figures is critical for the acquisition of specialized knowledge in game play [12]. In other words, to play the game as Lara Croft successfully, the player must sometimes ignore the Professor’s instructions or only listen selectively or even risk open disobedience. Squire and Jenkins believe that even games like *Grand Theft Auto* can help students understand political resistance in history games and simulations, such as those about the American Revolution [32].

In contrast, games developed by the U.S. military actively discourage transgressive play for obvious reasons. The chain of command depends on submitting to orders from those in authority without questioning those commands. For example, a player in *America’s Army* who experiments by shooting his commanding officer in the first few seconds of the game forecloses any future opportunities for learning, because he immediately finds himself in the brig. Although *Tactical Iraqi* focuses on suggestions and responses rather than orders from other military personnel to foster a sense of autonomy in game play, John Smith only experiences negative consequences from not following his directives, and the Pavlovian mechanisms of the game are consistent with a language learning methodology that emphasizes obedient responses to stimuli as a reinforcement to learning.

4.5 Trust and Face

Although the initial measure of a player’s “health” in *Tactical Iraqi* was the “emotional arousal level” [13] of the other autonomous agents John Smith encounters on his mission, the “arousal level” meters of the early demo version were later replaced by “trust” meters in more recent prototypes of the game

Researchers explained the development process: “As we conducted formative evaluations of the TLTS, we frequently saw a need to improve feedback, and developed new feedback methods in response. For example, when learners carry out actions in the Mission Game that develop rapport with the local people (e.g., greet them and carry out proper introductions), they want to know if they are making progress. Some cues that people rely on in real life, such as the facial expressions of the people they are talking to, are not readily available in the game engine

underlying TLTS (namely, Unreal Tournament 2003). We therefore developed an augmented view of the non-player characters’ mental state, called a trust meter . . . The size of the grey bar under each character image grows and shrinks dynamically depending upon the current degree of trust that character has for the player. Note that this lessens the need for intelligent coaching on the subject of establishing trust, since learners can recognize when their actions are failing to establish trust.” [19]

In this paper, project team members describe how they must compensate for particular shortcoming in the player’s digital experience, in this case insufficient granularity in the interlocutors’ facial expressions. Thus they adapt the design of the system so that vividness and interactivity can continue to be closely correlated in play. Although John Smith is not otherwise equipped with hypersensitive superhuman abilities, he is magically able to visualize the quantifiable affect behind particular nonverbal cues about trust that are signaled on meters in the course of game play. Consequently, he is particularly empowered to achieve success in the game by inspiring the greatest trust from the greatest number of agents.

It is interesting to note, however, that the game designers initially considered “face” to be most critical in judging the success of discrete linguistic interactions, which – if successful – would be recognized as “polite” in the world of *Tactical Iraqi*. Unlike “trust,” which relies on the perceived presence of social guarantees, “face” can be seen as a more appropriate standard for autonomous agents who lack such social guarantees because of significant cultural differences and diverging national interests. In other words, face is a measure of self-esteem, while trust gauges one’s comfort in depending on others.

Following the typology of Brown and Levinson, face is defined in terms of so-called face-wants, which may be positive (the desire to feel appreciated) or negative (the desire to remain unmolested) [4]. Depending on whether the speaker’s politeness strategy aims at preserving the positive or negative face needs of the addressee, Brown and Levinson identify positive or negative politeness respectively. The friendly Arabic speaking characters John Smith encounters seek to engage him in social practices of praise and mutual admiration, but they also preserve respectful distance from Smith and do not insist on detaining him by requiring further participation in their cultural routines. In addition, *Tactical Iraqi* is filled with what Brown and Levinson call “face threatening acts” (FTAs) that might be seen to impinge upon or take away honor, or status.

5. IDENTITY IN PLAY

It could be argued that the third-person player format of *Tactical Iraqi* invariably draws attention to issues of identity, since the player can see the external characteristics of John Smith, while also being expected to identify with his inner affect. This ability to view what Bob Rehak calls “the spectator’s own body” in video games can be equated with the psychoanalytic experience of the mirror stage and related imaginary constructions of self [32]

Because identity is always the product of the bifurcation of internal and external categories of self, a measure of how we see ourselves as similar to and different from others in particular

communities of membership, the third-person perspective spotlights identity politics in a way that the unmediated perspective of first-person play can not.

The player knows that John Smith is a white male who is often comparatively physically imposing. We can see that Smith is neither young nor old, and -- from the context of the mission -- we know that he is not located on either extreme in the chain of command. From playing the game, there are also many things that it would seem we do not know about John Smith: his political affiliation, his previous military tours of duty, and the region of the United States from which he comes. However, the learner is able to create aspects of Smith's identity in response to specific questions or social interactions.

In the fourth scene, "At Jasim's House," the learner must endow Smith with a range of kinship relations. He must establish if Smith is married or unmarried. He can give him different gender configurations of offspring. He can assign him brothers and sisters. These family members can also be endowed with a range of occupations (which are associated with certain class designations): doctor, soldier, teacher, lawyer, engineer, and merchant. The learner can even offer to show Jasim a photograph of the family that the learner has manufactured, although this image is not clearly visible to the learner. If the learner omits the social niceties of establishing Smith's personal background when faced with Jasim's polite but mildly probing questions, Jasim will refuse to use his authority as a "senior official" to help the mission go forward, because the learner has too abruptly initiated "business" discourse before a sufficiently intimate rapport could be established.

Of course, like all the human figures in *Tactical Iraqi*, Smith has an elaborate character profile, although this narrative substrate is invisible to the player. Game designers have envisioned Smith as a soldier who joined the military as a reservist and for economic reasons, to support his family and to defray his educational expenses. In this backstory, Smith's early attempt at a career in music and his choice not to delay parenthood after marrying appears to have derailed his predictable class aspirations, given that designers have imagined Smith to be from a privileged background in which his father is a "respected attorney," and his mother serves in the Massachusetts State Legislature.

5.1 Human Subjects: Class in Play

In October 2004, another test was scheduled at Fort Bragg that was deemed to be much more "successful" than the first. Test subjects were drawn from an all-male group from the U.S. Army Special Forces. To the experimenters, these men seemed to represent a superior class of learner and were characterized by researchers as having "intelligence greater than the average soldier" [18]. Those who evaluated the game claimed that this particular group worked with *Tactical Iraqi* as a single, coherent unit more effectively. These soldiers were praised for making "better use" of the Mission Game and for not relying on "cheat sheets." It could be argued that these soldiers were more like the John Smith envisioned by the game designers, since in his backstory Smith is a sophisticated specialist in "economics and public finance" in the military who has launched a career as a "financial and loan consultant" when off-duty back in the U.S. Perhaps these Special Forces subjects were able to endow the burley, bumbling Smith of game play with some of the incipient,

intangible, exceptional qualities that Smith's designers had endowed him with in his backstory.

5.2 Guides and Obstacles: Gender in Play

Although initially there were plans to create a parallel version of the game with a female protagonist, Major Kate Jones [24], game developers are no longer actively pursuing a version with a female mission leader. Researchers cited cost and design issues, the demographic features of the typical service person, and a perceived female acceptance that the armed forces were dominated by the ideology of a single gender. However, from the perspective of applied linguistics, this permanent postponement seems an area of serious concern, especially given published research that identifies significant gender differences in Arabic language use, particularly in studies by Hassan [15] and Bakir [1].

Nonetheless, promotional materials about *Tactical Iraqi* prominently feature endorsements by female service people for the program, including female instructors from West Point and Fort Carson, Colorado. Yet what Arab linguist Amy Perkins seems to be asserting is actually the suitability of the game for those of the *opposite* sex. As she says, "These guys aren't going to sit in class learning Arabic."

Certainly, a substantial body of criticism now exists about the manifold benefits of playing and learning across gender lines through video game play. As Gee and many others have argued, transgender play is both common and educational, so female service people playing as Smith may be empowered and enlightened by the experience.

Furthermore, the *Tactical Iraqi* program features a female voice in the Skill Builder that encourages awareness of gender difference in the tutorial mode. And in the Mission Game, Sergeant Smith is accompanied by a three-dimensional Sergeant Samia Faris, whose presence is acknowledged from the opening scene at the Hai Al-Nahar café and whose cultural knowledge as a "native speaker" cues the learner about how to properly engage in Smith's identity building in Jasim's house.

In Samia's backstory, we learn that she is a cultural hybrid, a woman who is born in Baghdad to a Chaldean Christian family but raised in Canada and California after her family's flight from the Iraqi regime in 1988. Like Smith, she is also a reservist who was motivated to join the army to pay for her education.

The narrative of Samia's agency is only backstory, however. Virtual women in *Tactical Iraqi* are either invisible or limited to performing the traditional roles of female characters dating back to epic narrative conventions. Women can only serve as guide, as goal, and as obstacle. Female agents can redirect the trajectory of the hero or misdirect him from his goal, but they can't participate as central agents in their own right. For example, Samia is limited to making suggestions about what Smith should say and do, and the potential presence of female members in Jasim's household only represents possible social gaffes to be avoided.

A complicated backstory has also been written for Jasim's college-educated wife, Munaa, who is the principal of the girls' school and an obvious stakeholder in Smith's mission. The game designers have given her many elements of soap opera in the narrative: she is both wife and cousin to Jasim, and -- in a move toward metanarrative made by many video games -- she is also a

fan of elaborate plot-driven Mexican telenovelas that have been dubbed into Arabic. But Munaa has no actual lines in the current script of scene four of *Tactical Iraqi*, and virtual women remain largely ancillary to the action in the present version of the game.

5.3 Role, Subjectivity, and Voice

A. Suresh Canagarajah has mapped out how the “self” can be composed of a number of discrete and overlapping interpretive and rhetorical taxonomies. Identity (such as “racial” or “national” or “ethnic” identity) is only one component of many, Canagarajah claims, because the “self” is actually an amalgam of “identity,” “role,” “subjectivity,” and “voice” [5].

In other words, Sergeant John Smith occupies an obvious identity position as a white, American male, but he also has a social role to fulfill in rebuilding the school with the cooperation of the villagers. Additionally, he has a particular consciousness of his own subjectivity and some understanding about how his agency is enabled and constrained (in the case of the game, by his linguistic competence, albeit temporarily). John Smith also has a “voice” that can express resistance and accommodation in a second language; he can be “heard” by autonomous agents capable of response in the context of their own ideologies. Research evaluating the success of *Tactical Iraqi* also indicates that the test subjects who served as players could also be defined by a similarly complex matrix of identity, role, subjectivity, and voice; the successes and failures of different tests groups were catalogued with attention to all these aspects of self.

5.4 John Smith: Avatar as Cipher

The learner initially knows remarkably little about John Smith’s personal history before entering the game space. Smith comes equipped with no apparent pre-packaged personal history; thus the game’s avatar often functions as a cipher in play. Yet to win trust in realistic linguistic interactions in the indigenous culture, the learner has to preface business discussions appropriately by disclosing public aspects of personal life. Luckily, the Mission Skill Builder prepares the learner for this aspect of the Mission Game. Units on “Describing Yourself” and “Building Rapport” make the obligation for personal revelation and open discourse from a clearly defined identity position manifest. The learner is helped with descriptions of these positions of self by units on “Learning about Your Host” and “Kinship and Occupations.”

In scene four, the player is placed in the uncomfortable position of being expected to provide personal details about John Smith that are not included in the fixed narrative ingredients of the game, so that when this situation is carried to its logical conclusion, it would seem that the only way to convince others of the authenticity of a given self would be to quickly manufacture specific information about this fictionalized alter-ego. Thus the learner is expected to elaborate a character upon the blank slate of the avatar provided.

The name John Smith is, of course, that of an American Everyman, to the point of being a common referent and even risk being a cultural joke. “John Smith” is certainly devoid of any ethnic identification with an immigrant past. It is perhaps also an unfortunate choice, given that John Smith is the name of a famous early propagandist for colonization and the disseminator of wildly inaccurate ethnographic depictions of indigenous peoples.

5.5 Is Linguistic Identity a Privileged Category?

Manuel Castells has argued that increasingly networked “informational societies” are characterized by “the preeminence of identity as their organizing principle,” which he defines as “the process by which a social actor recognizes itself and constructs meaning primarily on the basis of a given cultural attribute or set of attributes to the exclusion of a broader reference to other social structures” [6]. For Castells, linguistic identity presents a special case: “*I would make the hypothesis that language, and particularly a fully developed language, is a fundamental attribute of self-recognition, and of the establishment of an invisible national boundary less arbitrary than territoriality, and less exclusive than ethnicity*” [6]. Language, Castells argues, provides “the linkage between the private and the public sphere, and between the past and the present, regardless of the actual acknowledgement of a cultural community by institutions of the state [6].

As John Smith acquires knowledge of Arabic and participates in social networks, he also takes on a new identity as an Arabic speaker, but John Smith’s identity as a speaker of Arabic is always understood to be extrinsic, provisional, and only a supplement to his core identity as an English-speaking military officer. At most this identity serves as a temporary dramatic persona; at the very least it serves as a tool that merely provides a means to an end. Although John Smith participates in the activities of the village, he does not take on a new citizenship, even after he is welcomed into the house of the village leader and has participated in all the subsequent rituals of social bonding associated with rebuilding the school.

6. NATIONAL IDEOLOGY AND VIRTUAL LANGUAGE LEARNING

In the United States, the following joke is sometimes told: “If a person who speaks *two* languages is ‘bilingual,’ and a person who speaks *three* languages is ‘trilingual,’ what do you call a person who speaks *one* language?” The answer, of course, is “American.”

Despite the fact that the citizenry of the United States is increasingly transnational and bilingual, this joke reveals an ideological truth: to some extent, to speak another language is to cease to be an authentic American, as the long history of English-only initiatives demonstrates [16]. The U.S. Congress may declare this year, 2005, to be the official “Year of Languages,” but governmental funding for bilingual and second language education remains insufficient, and many college programs in second language learning for critical world languages that have hundreds of millions of speakers remain desperately under-enrolled despite nominal governmental support.

In Castells’ terms, this monolingual identity can be seen as so primary that it assumes a special moral authority in U.S. policy and populism, although it could also be argued that this linguistic national identity erodes its moral authority by subverting the language identities of its own bilingual and transnational members.

6.1 A Prehistory of Embodied Language Learning

Techniques for embodied language learning are actually nothing particularly new; they predate digital virtual environments by decades. For example, in the 1970's Bulgarian psycholinguist Georgi Lozanov championed "Suggestopedia," a technique that emphasized the learner's embodied physical state, bodily comfort, and sensory perception to encourage receptivity and to lower learning anxiety and resistance [21]. Suggestopedia also used game play and encouraged learners to assume an identity within the target language, just as foreign language software simulations do. For example, if one wanted to learn Russian with Suggestopedia, one could assume the identity of a native speaker whose upbringing would have encouraged him or her to be proficient in the language since childhood. In some ways, *Tactical Iraqi* represents a more timid form of embodied learning: curricular materials only attend to auditory and visual stimulation, and learners are restricted to occupying an identity that is on the periphery of membership in the target language not at its center.

6.2 Gaming Secondary Literacy

At one point in the game, if the player is successful in his interactions with a man at a sidewalk table, the man will hand him his card. Yet, if this virtual card is written in Arabic, at almost no point in *Tactical Iraqi* is the player given any skills to read it. The act of reading which is so central to many classic computer games, such as *Myst* [31], is totally irrelevant to play in *Tactical Iraqi*, even though this Arabic language learning program is ostensibly a literacy game.

Although the program website describes the approach of *Tactical Iraqi* as one that merely "deemphasizes written language," it may be more accurate to say that the program actively avoids any pedagogy aimed at secondary literacy goals. This is the case despite the fact that the imperceptibly smooth integration of reading and response in video games has been characterized by literacy specialists like Gee as indicative of their potential usefulness as a teaching tool [12].

It could be argued that the focus of the program on face-to-face interactions and paralinguistic cues promotes primary literacy more effectively, because the learner must participate in both receptive and productive modes (with the unintended consequence of sometimes inducing reluctance in some learners). Yet, in a game that is about exploring a semiotic landscape and interpreting situated cues, it seems like a lost opportunity to ignore such a significant language realm. Compared to giving characters complex culturally specific gestures that require fine motor coordination in the 3D game engine, it would seem that a relatively trivial amount of redesign could draw the player's attention to the way that the setting is already labeled for secondary literacy skills in a meaning-rich environment of building signs and printed ephemera, even if the *Unreal* engine itself does not support Arabic fonts. *Tactical Iraqi* learners even sought out print literacy and requested that Arabic numerals be added to the Skill Builder, which has since been done.

6.3 Language Games are Different from Gaming Language

I would argue that, to some extent, the soldiers who play *Tactical Iraqi* are being encouraged to "game" the language to reach the next level and ultimately the final goal of tactical success. Yet, to achieve significant foreign language acquisition, it is also important to participate in "language games" that may not have objectives or designated winners or losers.

Wittgenstein claims that linguistic rule-learning originates in the simple language games of childhood, such as call-and-response memorization, the rhythmic naming of objects, and playground rhymes [37]. The total number of language games Wittgenstein considers to be "countless," because such games include an endless combination of verbal activities in a list that encompasses asking, praying, speculating, reporting, thanking, joking, and translating among many others.

By building on Wittgenstein's work, Lyotard identifies several language games that are played by social actors: these include the denotative game (where the focus is on what is true or false), the prescriptive game (where the focus is on good and bad, just and unjust), and the technical game (where the focus is on what is efficient and inefficient) [22].

The digital entity who represents a combination of the learning soldier and the pre-packaged avatar John Smith participates in a variety of language games. After his training in the childlike Skill Builder, John Smith must be able to affirm that he is from a particular nationality in the occupying forces and to deny that he is a member of the CIA. He must orient himself in a structure of fictive kinship at a critical meeting. He must make choices about people, materials, and environments that demonstrate a capacity for the discriminations of just social conduct that is located in discourse. And finally, he must get the building built as efficiently as possible and direct the process of rebuilding, much as the "builder" does with his "assistant" in Wittgenstein's opening example of a simple language game around construction activity.

6.4 Code-Switching and Linguistic Hybridity

When Arabic speakers were asked to review the game for accuracy and authenticity, some expressed surprise at the naiveté of the game's design. These critics argued that the local Arabic-speaking authorities to whom John Smith is directed would know some English and at least be familiar with hybridized language strategies and engage in code-switching to maximize opportunities for communicative success. Although Iraq achieved independence from Great Britain in 1932, global forms of English still permeated many aspects of official and unofficial culture.

"G.I." dialects, such as "G.I. Japanese," are important for facilitating linguistic play. All around the world, much of the communication that takes place between local people and military personnel reflects provisional language strategies like pidgin or simplified English or creolized native languages. Yet the game is designed to reinforce formal and grammatically correct sentence constructions. What John Smith encounters in the game space is "pure" Arabic without English slang, loanwords, or code-switching substitutions.

The researchers behind *Tactical Iraqi* explained that even the simplest hybridized linguistic interactions would strain the capabilities of the speech recognizer, whose technical requirements had already consumed a considerable portion of the program's budget and time on task during the project's history. At first, the Arabic speech recognition software rejected many correct utterances. When the system was demonstrated to me earlier this year, however, the game was excessively tolerant of linguistic mistakes and thus I was told would require more tinkering. The algorithm for scoring learning pronunciation had to be adjusted several times in the process of developing *Tactical Iraqi* [17, 18, 19], even though the system was specially designed with AI technology that aided the machine in recognizing the features of a learner's individual voice. In other words, before the learner could learn, the machine had to learn to recognize the idiosyncrasies in the speaker's personal patterns of speech.

6.5 The Monolingualism of the Other

Derrida presents two seemingly contradictory statements in one of his last works: "1. We only ever speak one language" and "2. We never speak only one language" [9]. For Derrida, the human subjects of language are both always and never bilingual. Regardless of the associated "mother" language of our apparent ethnicity or national origin, our phenomenological experience of discursive practices is simultaneously uniform and multiform.

In other words, John Smith and the players who assume his identity in the game likely function in a complex linguistic universe with multiple codes and conventions that seems relatively seamless to them in their experiences of it. It is not unreasonable to assume that specialized training and personal experience in the armed forces has made these soldiers familiar with many languages. Specific dialects might include otherwise arcane military jargon and technical acronyms, highly ritualized forms of salutation for those higher in the chain of command, and even scatological and misogynistic oral folklore from the base. Gee has gone so far as to argue that game play, like advanced professional training, equips a learner with the specialized vocabulary of an expert language [12].

Yet John Smith and the players who inhabit him also experience the continuity of their linguistic experiences. Expert or foreign language simply expands the number of correspondences of words to things, it does not change their character of the experience of perceptual or social realism.

7. FINISHING AS THE HERO OF THE VRE / MEASURING THE SUCCESS OF THE GAME

At the very end of the game, at the last level, Sergeant John Smith, the successful language learner, is to be celebrated as a village hero for his competence in rebuilding the girls' school in the face of material and cultural obstacles that could have prevented achieving the mission's goal.

If games are, in fact, inherently pedagogical, as Gee and Johnson argue, language skills acquired in this game should be transferable to other contexts, like the context of real missions in real villages in Iraq. Educational media theorists like Gee argue that video game skills require such complex interactions that they transfer relatively easily [12]. Once a complicated protocol is

learned for inflexible virtual agents, discursive practices can be applied in riskier situations in a more fungible real world. Others see this very complexity as a natural obstacle to the transference of skills for educational purposes [33], particularly when distinct genres of game play evolve so rapidly and novelty is so highly prized by the gaming community.

At this point in time, the data on *Tactical Iraqi* appears too limited to judge definitively. Published results reflect the tiny sample size, and it is obviously difficult to generalize from just a handful of learners about a project with so many curricular components and so many variables of learning involved. These variables include obedience to authority, group dynamics, the learner's status in the eyes of researchers, the learner's conceptions of self, and especially trust in the learning situation. The process of user interface improvement is still ongoing as of this writing. Content development of this iteration of this particular language learning package has only recently ended (in June 2005) and summative evaluations with larger numbers of test subjects at West Point and other training sites are scheduled for Fall.

As a rhetorician who studies new media, I sincerely hope that this military simulation, which is intended to forestall violence and armed conflict rather than prepare for it, will not be the last game in its genre. Although I have expressed concerns about its technological and ideological hard wiring, I think that this program also stimulates critical discussion about how trust and self are constituted by digital experiences and how language is integrated into virtual environments of all kinds, even when conventions about rules and randomness in virtual spaces do not match up neatly with the principles governing linguistic play.

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