

DISTRIBUTED TEACHING AND LEARNING SYSTEMS IN DOTA 2

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One theme that has been somewhat underdeveloped in the games and learning literature is the role of teaching in and around games. Many studies tend to focus on the rich learning that happens through gameplay without directly addressing these as teaching interactions as well. Gee's seminal *What Video Games Have to Tell Us About Learning and Literacy* (2003) is a prime example; the 36 learning principles Gee outlines, such as "designing multiple routes to participation" or the "amplification of input," are not just ways in which good learning occurs but are also key strategies for good teaching. Squire's excellent *Video Games and Learning: Teaching and Participatory Culture in the Digital Age* (2011) similarly tends to privilege the kinds of learning that happen through gameplay while underselling the specific ways these games function as teachers in their own right, though Squire does reflect on teachers as designers of learning experiences much like game designers shape the play (and learning) experiences of their games. While much maligned, the gamification literature largely captures something about the ways games teach, although it is often limited to issues of motivation and engagement rather than deep insights into

teaching practices outright. Gamification interventions such as Sheldon's *The Multiplayer Classroom* (2012) or Kapp's *The Gamification of Learning and Instruction* (2012) also tend to get tangled up in the metaphors of gaming (like levels and points and roles/classes) which can interfere with the truly meaningful insights games provide into teaching. Salen et al. (2010) perhaps address most clearly the ways games teach in their Quest to Learn program by leveraging game-like design in their instructional practices, though again the relationship between games and teaching is still left somewhat tacit. I don't doubt that these and other game-based learning theorists recognize that game design features are teaching features, though it is striking how few explicitly address the issue.

This article is meant to directly describe the ways a game—in this case, Valve's *Dota 2*—teaches and to point out what that might tell us about teaching more generally. *Dota 2* is a well-designed and well executed game, and like many other games includes features like a tutorial and in-game library which are relatively clear instances of teaching. What differentiates *Dota 2*—and what makes it so illuminating in terms of broader themes in teaching—is the way Valve has designed additional teaching “channels” which leverage the affordances of the game client and work together to teach the complexity of the game. These channels utilize other players as teachers; that is, Valve includes features which are “activated” by other players who perform the role of teacher using affordances of the game itself. For example, the game includes a “coach” mode where a player can invite another player into their game and the “coach” can mark up the player's map, control their camera, and has a dedicated chat channel. *Dota 2* is made up of multiple designed teaching systems which use the tools of the game to teach (like the tutorial) as well as other “designed-for-emergent” teaching systems which invite players to be participant teachers.

Furthermore, like many modern games, *Dota 2* has spawned a

number of emergent teaching spaces like YouTube videos or theorycrafting websites which are outside of Valve's direct designs but which still serve as vital channels for teaching and learning. The relationships between these various designed and emergent teaching systems and the way they work together are especially compelling. These different sites may use very different teaching methods (some highly didactic, some demonstrative, some interactive or based around dialogue and debate), so *where* a learner goes can deeply influence *how* they are taught. A broad view of teaching and learning that considers multiple "nodes" of learning suggests something very rich about learning and the many trajectories it may take for any learner, and about the many forms of teaching they might encounter. Perhaps most importantly, because some of these distributed teaching sites are outside of the control of the designer, the relationships between these various sites highlights a tension about who is responsible for teaching and learning—a tension many contemporary schools face with the rise of the internet and other digital media as legitimate sites for learning. Increasingly, learners can customize their experiences and have more power to arrange teaching and learning sites that suit their interests (for good or not). The ways *Dota 2* leverages many of these emergent sites—but is also subject to those it cannot control—provides an interesting model for how modern institutions (like school) can find a place in a digitally networked 21st-century world.

To deal with these complex distributed teaching and learning systems, this article extends a pair of related concepts: Gee's (2003) notion of "big 'G' Games" and Jenkins et al.'s (2006) idea of an ecology of media and communication technologies. Big G Games, for Gee, include not just the game itself (what happens on the screen) but also a range of other activities and sites like YouTube walkthroughs and tutorials, guides and FAQs, web forums, "theorycrafting," cosplay, machinima, fan fiction and many others. Together, these activities make up the Game, and by

considering the many different sites for participation we might gain a better understanding of what playing games really entails. Jenkins' idea of an ecology of media technologies follows a similar epistemological bent, where the relationships between various media forms and participants and the "cultural communities" (2006, p. 8) which negotiate practices around them serve as a more informative and meaningful way of thinking about media interactivity. Both of these views provide an interesting lens to think about the way teaching happens in and around games, especially a game like *Dota 2* where there are many sites where teaching occurs. This article looks at *designed teaching systems* in the game (such as the in-game tutorial and knowledge library), *designed-for-emergent teaching systems* (including the "coach" mode and the streaming/spectator mode), and outside-the-game *emergent teaching systems* (especially Twitch.tv and the theorycrafting site Dotafire.com) in order to show how these teaching systems are distributed across the Game (after Gee's term) and form an ecological network of teaching systems (in Jenkin's terms).

***Dota 2* and teaching**

Dota 2, formally known as *Defense of the Ancients 2*, is developed by Valve Corporation. It is a Multiplayer Online Battle Arena (MOBA), a sub-genre of Real-Time Strategy (RTS) games, played online in cooperation with and competition against other players. Two teams of five players each attack the opposing team's base while defending their own. There are many different strategies possible depending on the composition of each team and their plan of attack ("rushing" the opponent with all 5 players, fighting a battle of attrition, playing "hit-and-run," and so on). *Dota 2* also has a very large "professional" competitive scene, one of the most important factors in *Dota 2*'s popularity as it is both a participatory and spectator sport.

Dota 2 faces a particularly difficult challenge in that it is a very

complex game with over 100 heroes, hundreds of abilities and pieces of equipment, and countless potential strategies. The game must teach the player the basic elements (what the goals are, what success and failure look like, techniques to achieve these and so on). Players must also navigate multiple semiotic domains (the mechanics of the game as well as interface elements) so a player needs to learn how to operate both the operational and conceptual levels of the game. To play successfully, they must also learn somewhat abstract strategies for reacting on-the-fly as the game changes through the course of play. Furthermore, because of the highly social nature of the game, there are complex social practices around playing the game that players must learn in order to participate fully in the gameplay experience. These include things like terminology, team composition and strategies, trends in play styles, social conventions and others. Participating in the Game (in Gee's term) requires navigating these social realities as well as the "technical" ones of the "little 'g' game."

The in-game tutorial only covers an almost superficial amount of the actual learning necessary to master the game; it introduces some key features, ones that are absolutely necessary to playing but which hardly account for the deep and sophisticated knowledge it takes to "learn" the game. The tutorial modules are there to *begin* the learning process for the player, and to shape their initial experience and give them a frame for their continued play, but mastery requires tremendous effort by the player. Of course, it's possible to argue that the joy of gaming is in discovering rules and strategies on your own (Koster, 2007), and no tutorial will completely cover every possible concept fully. It is no surprise, perhaps, that the tutorial is only a starting place.

Valve's unique solution to deal with the complex teaching necessary for mastery beyond the tutorial is in those other teaching channels which include players as active peer- and expert teachers. For one thing, it reduces the amount of work on

Valve's part—they design systems which support peer teaching but don't necessarily have to develop all the content to teach, effectively “outsourcing” the labor to the players. Furthermore, in a game that regularly changes through patches, balance updates, and expansions, having a large group of participant player-teachers means that they can respond to these updates rapidly and without the overhead of re-designed “official” teaching interventions. Many players likely relish their role as participant teachers for a variety of reasons, such as supporting friends or other new players and the social cache it brings, showcasing their knowledge and skills, and even feeling part of the continued development and success of the game. Valve certainly benefits from having players dedicated to the game and engaged in actively introducing new players to it since they will likely continue providing revenue, so including as many teaching supports as possible (through their own designs and through designing tools for players to do their own teaching) is in Valve's financial best interests at the very least.

Designed teaching and learning systems in *Dota 2*

I use the term “designed teaching and learning system” to refer to many of the overt teaching features of the game; these are what might pass as obvious or common sites of teaching across many videogames, including tutorials, didactic showing/telling, descriptive text, and so on. Most games contain variations on these designed systems, although not all games do. These designed systems are insightful for two important reasons: first, they are intended explicitly by the game maker to perform the function of teaching the player how to play; second, the relative ubiquity of these designed systems across games points to their perceived importance by both game designers and players. *Dota 2* contains several of these designed systems; I will primarily focus on two (the in-game tutorial and the knowledge library) but recognize there are more examples within the game; these two simply provide compelling cases in their own right.

In-game tutorial

Dota 2's optional, multi-part tutorial covers various features of the game, from basic camera and character movement to complex, multi-player battles (essentially, the “real” game). It includes two special modules designed as “testing grounds,” where players can play a match against the computer to work through the material they just learned in a safe, low-risk environment. Players can play any of the tutorial modules only after “unlocking” them by completing the previous module, but they can repeat previous modules as many times as they’d like. The game actively assesses the player’s performance and acts as a gatekeeper to the player while providing a productive space for players to practice and develop strategies for their play.

The tutorial is broken into eight scenarios, each covering a different topic but also organized sequentially so that the scenarios build on top of what previous tutorial sections covered. This kind of scaffolding is a common teaching technique (see, for example, Bransford et al., 2000 or Pea, 2004) and is closely related to Vygotsky’s (1933) concept of the Zone of Proximal Development where learners initially encounter limited affordances in order to reduce cognitive overload or early failure, have the support and guidance of a more-knowledgeable expert, and gradually have constraints removed once they can cope with increasing conceptual or physical complexity in the “real” task they are learning. For example, *Dota 2*'s first tutorial scenario is actually non-interactive, instead containing a 4-minute narrated overview of the basic mechanics and goals of the game. Subsequent tutorials introduce new concepts, from basics like movement and melee combat to advanced ranged combat and high-level knowledge like “last hit” bonuses and equipment management.

The game also scaffolds the kinds and frequency of teaching “interventions,” many of which are highly didactic and rely

heavily on direct showing and telling. The game tells the player how to do something specifically and directly (such as how to move their character, and points out a spot on the map to move to) and then waits until the player completes that task. Module 2 includes 34 pop-up/dialog boxes, 22 of which include some kind of showing/telling prompt, as well as 7 times where the action “stops” until the player demonstrates competence with the new skill or feature at hand. By the fourth module, there are only 4 dialog boxes and 1 “stop” at the beginning of the module when it introduces the new concept of starting gear. Within the span of three modules, the teaching interventions drastically drop, and players are mainly practicing the skills they have learned and have demonstrated to the game that they can use them properly.

In-game knowledge library

The game also contains a great repository of information—and teaching—outside of the tutorial modules called the Library. This is another optional section of the game client where players can look up information about all of the heroes (currently 109 of them) as well as items and more (easily several hundred entries). Each character page includes detailed statistical information on their abilities (such as the amount of damage done or the duration) as well as additional narrative descriptions. These statistics provide concrete information for players to use when planning how and when to use various abilities during play (forming strategies for their play) as well as evidence when debating those strategies such as on theorycrafting websites. Players can then use the game as an exploratory space to contextualize that information (to make somewhat abstract statistics meaningful as part of their play experiences). The library is not unlike a “traditional” game manual in that it is a teaching and learning resource that provides background or contextual information that primarily makes sense only when used in conjunction with actual gameplay.

What makes the in-game Library in *Dota 2* different from a manual—and a more explicit teaching resource—is its multimodal demonstrations of character abilities in action. Each ability includes a video showing (modelling) a specific example of what the attack “should” look like in order to let the player know when the ability works and, potentially, how it should be used (in what situation, against what enemies, and so on). For example, an area-of-effect ability will show multiple enemies surrounding the hero and demonstrate the way the ability damages all enemies simultaneously. This modeling teaches players a great deal about the correct use of the ability, tied to statistical information, and creates a robust link to the actual context a player will use it during their gameplay. The Library can make abstract information contextually meaningful (by showing statistical information that then informs play) as well as make specific instances of gameplay more meaningful by providing additional background information (such as when a player consults the Library to look up how much damage their new ability does).

Designed-for-emergent teaching and learning systems in *Dota 2*

As described above, Valve has designed a number of systems with the *conditions* for teaching to occur but which rely on players to do the actual teaching. The game itself doesn’t teach through any direct design by Valve but through players who “enact” the teaching on their own through affordances of the game client (including interface elements, chat and communication channels, and interactive components of the client). Players are supported (and even expected) to do some of the work in teaching, especially of the various social features like terms, strategies, and etiquette but also more basic gameplay as well. Like designed systems, *Dota 2* includes several different designed-for-emergent systems, of which I will only focus on three. These range across a spectrum of kinds of teaching, from nearly explicit teaching

(the “coach” mode) to implied teaching (the community “build” feature) to a highly emergent channel (the streaming/spectator mode).

“Coach” mode

In “coach” mode, players can invite friends or other players to help them play the game in real time using their own game clients to network together. Coaches can “take over” parts of the learner’s game interface (remotely) and control aspects of it. The coach can, for example, make marks on the player’s map or action bar that clearly call attention to them and make them salient or relevant, a feature not found in the “normal” game interface. This special mode also includes a separate chat channel for the coach and player to use that no other player has access to; it is a tool that they can use to interact “safely” removed from the view of others. Through this coach/player channel, the teacher (coach) can communicate concepts, terms, and the like to the learner (player), who can use in turn use it to ask questions and so on.

This designed-for-emergent teaching system is meant to give players both access to a more-knowledgeable peer and to provide specific tools for teaching; while there is no prescribed teaching on Valve’s part, they have designed tools which support the teaching performed by players. They have also identified or assumed what kinds of tools are important to perform these functions (interface control, marking and highlighting, a “protected” space for learners and teachers to communicate with less fear of calling attention to the learner’s status and so on). In essence, they have created special conditions for teaching to occur, though it is up to players to complete the teaching act.

Community character builds and guides

Another way for players to share their knowledge and to teach other players is through the community character builds and

guides features. These are interrelated features; the build feature is an interactive tool found in the game client where players can “spec” heroes with different equipment and abilities. They can access these builds within a game and apply it while they play; they can also publish these to the community. Guides are written documents created by players which normally feature builds that other players can import directly into their game, and often also contain a great deal of didactic explanation, meta-level commentary, strategies and suggestions, and even debate through a comment system.

Like the coach feature, these are channels where teaching is meant to occur, though perhaps less directly or explicitly. Valve has built systems where the conditions for teaching are present and provided additional tools that might be used by players such as the interactive modules and the comment feature on guides but which require players to fill in the content and perform the teaching. The guides provide a sanctioned space to share knowledge and teach other players not unlike a forum but with the additional connectivity of interactive tool tips and the ability to “plug in” to the game client. Not all players may use them for this purpose. Some players may only use the build feature to test out various configurations on their own, and so the game allows them to “teach” themselves by interacting with the tool, although this is not a particularly deep level of learning since the tool is primarily meant to “plug in” to guides or for convenient access during the course of gameplay.

Streaming/spectator mode

Many modern games have vibrant streaming spaces, a feature popularized in part by YouTube and especially Twitch.tv (discussed below). Valve has added an in-client streaming mode which leverages the native interactivity of the client as an additional feature to a “normal” stream site. Players use their own game client to watch matches with the ability to access

running statistical information (such as the kill:death ratio and in-game economy) or to change their view to focus on an individual player (including that player's interface), a free-roaming camera, and even to a "directed" camera that is controlled by a commentator. Some streams do not include a commentator, but most professional or semi-professional tournament streams do. Stream channels also have a separate chat channel visible only to other streamers and not to the players.

Players enact teaching in several different ways. In the least direct way, they serve as demonstrations or models through their play; a player can watch the "teacher's" view and interface and follow along with one particular player (even across many different matches) in order to watch an expert make choices, alter strategies and so on. These expert players are teachers in the sense that they model these actions, though they may not even be aware that they serve this role (they may not know, for instance, that someone is watching them as they play); they are, in some sense, "unintentional" teachers. It is often up to the player to learn by watching (and, hopefully, have some strategy in their own mind as how to learn through this watching). Nevertheless, these player-teachers do a great deal of modeling expert play in action.

Another, somewhat more direct, form of teaching through the stream feature is through commentators. Much like a good sports commentator can break down, explicate, or analyze some part of the game, many *Dota 2* commentators provide a great deal of insight into the thinking of players, descriptions and explanations of the game in action, and "meta" commentary on the game in general. For example, during competitive matches teams take turn choosing and excluding heroes, and often commentators will discuss the choice one team made, options for countering it, strategic planning on what teams might do in their next pick or in their overall composition, and even trends

by a specific team or in the game community at large. Most commentators use a great deal of jargon appropriate to the player base and can create or perpetuate these lexical or thematic touchpoints, such as terms for strategies (like a “split push” or “support farming”) or locations on the map. Again, these commentators may not directly recognize that they are teachers, but they do a variety of teaching acts throughout the course of their discussion at several levels (discursive, mechanical, strategic, meta). Valve has included interactive features in the client (such as the commentator’s ability to direct the camera and a dedicated voice channel) to support commentators and their audience which can be used to teach players about the game in many different ways.

Emergent teaching and learning systems around Dota 2

Many contemporary games include a great deal of Game sites, from lore-based discussion sites to streams to cosplay websites and many others. *Dota 2* is no exception, and is indeed not all that remarkable in the sense that the kinds of activities happening in the Game are not terribly different from, say, *World of Warcraft* or *Minecraft* or *Pokémon*. These are important sites for teaching and learning and play a large role in creating, perpetuating, and changing the Game and the game. It is possible (though outside the scope of this article) to consider the various affordances of sites like forums or YouTube, but it is important to at least gesture that these various sites are used differently for different purposes and have different affordances and limitations which influence the kinds of teaching and learning that occur through them. There are many, but I will look briefly at Twitch.tv streams and the theorycrafting site Dotafire.com to highlight a few important threads.

Twitch.tv streams

Twitch.tv is a major site for live game streams, including *Dota*

2. Streams on Twitch.tv are similar to those within the game client except they are generally locked to one individual player's view or on a commentator's screen (it is not interactive in the way the in-client stream is). Many players also include a small webcam video of their face overlaid on the game screen and use a microphone to talk to their stream audience or to other players. Viewers also have a dedicated chat channel to communicate with each other and often with the streamer. Much like the in-client streams, these spaces serve as teaching sites through modeling, commentary, and player communication. Unlike the in-game streams, Twitch often focuses on the personalities of individual streamers and groups form around popular streamers; here a great deal of social maintenance happens, and these popular streamers often drive community practices by using particular builds, strategies, and terminology (like, names, phrases or jokes).

Dotafire.com

Dotafire.com is a forum site where players can post hero builds and discuss strategies (among other things) through threaded conversations between many members. Members often engage in a practice known as “theorycrafting” where they formulate complex models of how various abilities relate and work to maximize performance. These discussions, like many of the hero guides, are often quite didactic (take X ability, perform Y action at a given time) in the sense that these players are explicitly telling others what to do and how. Theorycrafting usually requires that the player provides concrete, demonstrable evidence that other players can then test out. It is a kind of “prove it” scenario in which other players can validate a theory to make a more reliable or accurate model. In a sense, theorycrafting is a rich scientific practice that relies on evidence and falsification as a core feature. A website like Dotafire.com also has features which enable debate and discussion as a native affordance.

Implications of distributed teaching and learning systems in *Dota 2*

Within the Game of *Dota 2* it's possible to see many different channels through which teaching happens, from explicitly designed systems to player enacted teaching outside of the game. This particular analysis is meant to describe several of these sites and to highlight the ways teaching occurs through these sites. Further research might explore how affordances at different sites change the kinds of teaching acts they use. This article is also meant to hint that it is possible to conduct traces of specific teaching and learning across various channels and stress the need for innovative research methodologies to follow players across their various learning trajectories or to make large-scale claims about such learning pathways.

Further, *Dota 2* is a complex and dynamic game, and no single event, nor even a set of teaching events can teach all of this complexity. An ecological view of these teaching systems shows that teaching is a deeply interconnected practice, and learning happens at many various sites. Such a model suggests that we may think of teaching and learning more properly as Teaching and Learning (following Gee's term). In particular, tracing a learner's journey through various teaching and learning sites could uncover important information about the relationships between the various kinds of sites and the kinds of teaching and learning found at each site; it could also demonstrate that it is the act of moving *across* sites that is the valuable part of the teaching and learning transaction.

Indeed, what makes *Dota 2* so compelling is that it shows that learners have some control over how they encounter and organize their learning within a Teaching and Learning system. It's easy enough to imagine the tutorial as a teaching intervention, where a player learns the basics of the game in a series of events designed by Valve. But that same learner may

also watch a YouTube “how to play” video instead of playing the tutorial and learn many of these same things (and others not included by Valve). They also might watch some professional competitive matches and learn a great deal about strategies and hero builds. They could follow-up on these strategies by looking at the in-game build guides. They might then try them out in a match, where they get feedback from the game and possibly from other players about their performance with that particular build, and then iterate in a series of matches to perfect their play or try alternate solutions (possibly after consulting theorycrafting guides or by posting their build and receiving feedback from other players). They might even be inspired by the game to create some artwork around their favorite character, and dive deeper into the in-game Library for more background on the story or their character’s history. They could take this artwork to a fan site and connect to another fan to write a story or a comic around the game, and share not just their passion but their knowledge about *Dota 2*. Further research may validate or complicate this learning trajectory, but this is not a terribly unlikely path through *Dota 2*. It shows that players can customize their experiences across a network of distributed, interrelated teaching sites that the player can configure in a way which matches their interests and their need for more specific knowledge.

This model also suggests something profound about teaching in general beyond videogames. Through a distributed teaching and learning perspective, like the one demonstrated by *Dota 2*, it’s possible to think about ways in which teachers can organize networked nodes of teaching, where learners access different teaching acts in different contexts (some didactic, some demonstrative, some hands-on “messaging about”). These different nodes can serve different functions towards some Teaching goal. Admittedly, this may not be too far off of what many teachers do; a science classroom often has didactic teaching moments,

course readings, lab time and so on, each of which is serving a different function in the Teaching network. However, it's worth considering claims about the inauthenticity of these kinds of environments (that many of these activities are not meant to lead to "real" science but to fulfill some mandated competency) and contrast it with games (where generally learning is always aimed at playing the "real" game).

A distributed teaching and learning systems model also highlights a broader range of who and what might "count" as a teacher. A game like *Dota 2* shows that tools like interactive pop-up windows or customizable interface objects can be teachers. It also shows the power of peer and participant teachers, where many different people contribute some information or demonstrations of skill or knowledge, often passionately and enthusiastically. It even suggests that teachers don't necessarily have to be "formally" positioned as teachers (a player in a streaming game may never know who or what they are teaching) and yet can still serve as expert teachers if they are connected to learners who can translate watching experts in action into their own play.

That is not, however, the real power of a distributed teaching and learning model. This perspective suggests that teachers can design and organize *some* of these nodes (in the same way that Valve can design and organize *some* of the Teaching nodes in *Dota 2*) but not all of them; players/learners have some control and can organize these nodes to fit their needs as described above. For teachers, then, one opportunity is to leverage Teaching systems (which include emergent or non-sanctioned sites) in such a way as to enhance and support the learner's trajectories. In other words, teachers can plan, design, and organize some Teaching events as well as recognize (and hopefully integrate) other sites learner's may utilize in order to create a dynamic and complex system of learning. It is important to reflect here, of course, that this also implies that teachers are not alone in this process

but are integral agents networked with other teachers, learners, tools, and pathways. It is a bit of a double edged sword in this regard—if learners can customize their trajectory, especially through sites and teachers outside of the “control” of a teacher, they may learn something completely unintended by the teacher. This can be daunting to a traditional classroom teacher indeed.

This last point may be the most critical. One potential afforded by a distributed teaching and learning system—and one problem for an institution such as school—is that control is also distributed and, in many regards, is ultimately left up to the learner. Good designs (such as the kinds of teaching channels found in *Dota 2*) help shape the experience, but players can watch YouTube walkthroughs, talk to other players, and otherwise learn a great deal about the game outside of Valve’s control (including things Valve may not want, such as cheats, hacks, or exploits). Distributed teaching and learning systems demonstrate that it is possible to organize all kinds of learning events outside of the control of any institution. This article is meant to emphasize that something like *Dota 2* is tantalizing in the way it might connect learners to many various knowledges, practices, people, and contexts that transcend one teaching and learning site (like school, for instance). It is just as important to think carefully about how those connections are made. On the one hand, we might rethink what a “class” is, how it is arranged, and who participates in the acts of teaching. If we consider that all kinds of people and things can teach, and these various teachers can be arranged and activated in particular configurations to support a broad array of learning needs, we might arrive at very different in-school teaching interventions than what “traditionally” passes for teaching in a classroom. On the other hand, learners who can organize and navigate complex distributed systems outside of the control of an institution like school challenge how we think about the purpose of school in the first place. Instead of a primary site of public learning, it

may become just one of many sites where people go to learn, teach, and participate civically. It also changes the relationship between teachers, learners, content, and practice. In short, *Dota 2* just might serve as a model for what 21st century Teaching could look like, in all its complexities.

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