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Epistemic video games and Mantle of the Expert: A communities of practice approach

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Abstract:

This paper examines the relationships and overlap between Dorothy Heathcote's Mantle of the Expert drama technique (MoE), epistemic games, and a Communities of Practice learning theory (CoP). Within the educational environment there are currently converging attempts to introduce a more practice based, life long, socially embedded approach to learning. Flaws in the current approach to learning and teaching outlined by Wenger (1998) have been clear for some time to teachers and practitioners across a wide range of disciplines. Less clear is how institutions are to provide an alternative model of education, based on a more social and self-directed form of learning, which emphasises authentic connections to solving real-world problems. The following synthesis examines the developing synergies between the converging teaching strategies of Mantle of the Expert drama and epistemic games using a common communities of practice learning approach.

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Introduction

> "Our institutions ... are largely based on the assumption that learning is an individual process, that is it has a beginning and an end, that it is best separated from the rest of our activities, and that it is the result of teaching." (Wenger 1998a, p. 3)

This paper examines the relationships and overlap between Dorothy Heathcote's Mantle of the Expert drama technique (MoE), epistemic games, and a Communities of Practice learning theory (CoP). Within the educational environment there are currently converging attempts to introduce a more practice based, life long, socially embedded approach to learning. Flaws in the current approach to learning and teaching outlined by Wenger in the above quote have been clear for some time to teachers and practitioners across a wide range of disciplines. Less clear is how institutions are to provide an alternative model of education, based on a more social

and self-directed form of learning, which emphasises authentic connections to solving real-world problems. The following synthesis is an attempt to connect two educational approaches founded in the different fields of drama and video gaming to a communities of practice analysis of social learning.

Communities of practice

A community of practice in Wenger's terms is a specific group with a local culture, operating through shared knowledge practices, linked to each other in a shared repertoire of common intellectual resources. They are, as James Gee describes them, a way of "…seeing, valuing, and being in the world" (2005). These communities of practice provide participants, through a common repertoire of knowledge, ways of addressing shared problems and purposes (Lave & Wenger 1991).

Wenger's early work was initially concerned with business organizations and corporations and how they managed knowledge. In this context managing knowledge can be seen as "coordinating the activities of a variety of players who help discover diffuse or apply knowledge". (Wenger *et al*. 2002, p. 166) This focus on organizational culture presupposes a learning environment of autonomous adults with their own intrinsic motivation and job pressures to become part of a learning organization, either for profit or advancement or simply to maintain their position within the organization. Educational environments, especially school learners, as we are aware, have very different motivations for acquiring knowledge. Following Wenger *et al*. (2002, p. 4) CoPs have been defined as:

> "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis".

Constructivist theories such as a communities of practice approach build on pre-existing cognitive learning theory, and view education as a process of knowledge construction with concept development and comprehensive understanding situated within a social context of learning. This approach sees motivation and self-direction as the key drivers of learning. Such a view of learning firstly locates learners as actively involved in the process; and secondly, the knowledge they acquire is seen as highly related to the environment in which the learning is experienced.

This approach implies that learning should be task-oriented (Wenger 1998b) and focused on the practices of the knowledge domain. How this social theory of learning might operate is elaborated by Wenger *et al*. (2002) and placed within the context of lived experience and social participation within the world. Learning for Wenger is considered part of natural behaviour and as such it is life sustaining and ongoing.

He bases his theories about communities of practice on four major premises:

1. we are social beings;

2. knowledge is a matter of competence with respect to valued enterprises;

3. knowing is a matter of participating in the pursuit of such enterprises; and

4. learning should ultimately produce meaning – that is, our ability to experience the world and our engagement with it should be meaningful.

Learning is therefore seen as centrally involving participation. As Wenger puts it,

" learning transforms who we are and what we can do ….it is not just an accumulation of skills and information, but also a process of becoming a certain person" (Wenger 1998a, p. 215). So for Wenger, engagement in social practice is the fundamental process by which we learn, and through this negotiation of meaning we become who we are (Wenger 1998a, p. 52). Such an approach clearly states that learning and knowledge construction is a matter of engaging and contributing to the practices in which the learners are involved.

This social learning theory therefore situates learning in practice and in the social groups in which this learning takes place and defines such groups as communities of practice. Practice is seen as "… the way tasks are done, spontaneous, improvised, responding to a changing unpredictable environment, driven by tacit knowledge" (Seely Brown & Duguid 2000). Such learning, when situated within communities of practice becomes the reification of the social groups in which learning takes place.

When this approach is applied to specifically designed educational establishments such as schools the intrinsic motivation for the participants is not as clear-cut. Too often the learning in schools is seen as a "dummy run" - practice for real world engagement in the future, or for examinations that have no specific goal beyond grade point competition. In an attempt to counteract this tendency the techniques of Mantle of the Expert and epistemic games, respectively coming from drama and video gaming, have endeavored in a convergent way to implement this social model of learning in specifically school based learning environments. Both techniques have evolved to take advantage of computer based online communities of practice, which now exist on the Internet.

In educational terms, online computer based technology can provide access to the content of mediated learning communities of practice for both mantle of the expert and epistemic games. That is, the ability of technology, via computer-mediated communication, provides access not only to information but also to the production and discourses of a range of special interest online communities. The evolving social media and content sharing applications of online technology have allowed development of mediated communities of practice based on common interest and expertise rather than spatial locatedness. This presents an opportunity for educational drama to use everyday technology and computer-based communication networks to access centres of expertise that can then be used a teaching resource to create digital pre-texts (Carroll & Cameron 2003; Carroll 2004) for dramatically situated learning.

Such mediated communities of practice have developed in the highly distributed virtual environment of the Internet. While retaining much of their original non-mediated communities of practice form, they have a range of new and interesting qualities that can be used in the broader drama and learning context. In the past communities of practice were bound by spatial boundaries and proximity, the workplace, the factory or the office. With the advent of the online world, communities of practice sprang up that were based on shared content and interest, not shared location. They have now developed in such a way that even a relatively obscure interest or hobby will most likely have an online community of practice based around it. Such mediated learning communities can be seen as a valuable learning resource.

Mantle of the Expert

Drawing on a dialogue between Dorothy Heathcote and Gavin Bolton (1995, pp. 15-24) the applied theatre technique of Mantle of the Expert can be seen as a role based dramatic form in which the participants assume a role of professional expertise to run an imagined enterprise for a client. A more general term "enactment of the expert" (Hughes 1992) is inspired by Heathcote's concept. In this approach as in MoE, the group become characters endowed with specialist knowledge that is relevant to the situation; the situation is usually task-oriented; power and responsibility move from teacher to group; learners feel respected by having expert status (Neelands & Goode 2000 p. 34).

A further development of this technique is now occurring in applied theatre where the dramatic conventions of Mantle of the Expert are combined with *on-line communities of practice* to provide participants with access to professional areas of expertise otherwise closed to them. When operating on-line, such mediated communities of practice can be used as drama resources to create *digital pre-texts* (Carroll & Cameron 2003; Carroll 2004) for dramatically situated learning. It is an approach to theatre making which emphasizes "involvement, participation and engagement" (Nicholson 2005) in the dramatic context. By combining a digital pre-text based on specific community expertise with an online drama scenario, participants are able to develop a form of distributed cognition and virtual expertise while operating in the dramatic role of Mantle of the Expert. This blend of technology and applied theatre conventions has the potential to transfer valuable symbolic cultural learning into the hands of the participants.

Such scenarios allow participants, who are introduced to this mediated learning community approach, to interact with the authentic learning vocabulary and information of such communities of practice. While framed in dramatic role as virtual novices in a specific community of practice, the participants can master the required content of the subject material that is under exploration and develop a situated understanding of the specific context and possibilities for action.

Learners can encounter complex concepts inherent in the material while remaining protected by the situated dramatic role they have assumed within the MoE framework. By accessing the authentic production and discourses of communities of practice while dramatically framed through role distance, participants are able to enter what Shaffer (2004) calls the "epistemic frame" of the community of practice. This enables them to acquire expertise in the body of knowledge and ways of thinking and acting that any individual learns when they become part of a specific community of practice. By developing and adapting a community of practice research design to Mantle of the Expert techniques this approach provides a useful theoretical framework for online role-based applied theatre.

In Mantle of the Expert terms, mediated learning communities can most readily be used as an online source of content for dramatic pre-texts (O'Neill 1995, p. 20). When such sites are used with the conventions of applied theatre, transformed and modified by online technology, they provide a digital pre-text (Carroll 2004) and field of expertise for the drama to operate within. The drama practitioner, working with Mantle of the Expert techniques can access such digital pre-texts by making use of the on-line resources within existing mediated communities of practice.

Situated Role is the performance term used in this paper to describe how individuals behave when they are engaged in dramatically framed role-based applied theatre or epistemic games when combined with a digital pre-text (Carroll 2004). The dramatic frame when combined with the digital content of online communities of practice, allows the students to develop a form of virtual expertise while engaging in drama or games. This form of dramatic engagement is common in Mantle of the Expert drama and is increasingly being used in the emerging serious games movement approach. This dramatically framed position of *situated role,* shares all the features of a process drama (O'Neill 1995, p. 20) but is situated in a dramatically mediated "online reality" that augments the more typical imagined context that occurs in usual classroom practice. In this form, *situated role* draws on students' real life experiences, while using online networks to enhance their dramatic role identities and knowledge base beyond the classroom environment by providing access into the production and discussions operating within real (online) communities of practice. The students, in role as apprentices or as legitimate peripheral participants (Lave & Wenger 1991) begin to share the specialist discourse of the communities of practice they access as they build up real content expertise.

Epistemic games

Practitioners and educators familiar with the power and potential of applied theatre approaches such as Mantle of the Expert will be familiar with the following concepts:

> "Getting players to take on the identity of a professional is relatively easy. In fact, there is a kind of recipe – a heuristic or rule of thumb – for how to get someone to see themselves as a professional, and for others to seem them in that way. To make players feel like a *professional X* in an epistemic game, it seems they need someone to tell them they are a professional X. They need a badge of office or prop of profession X. They need to do something that they expect a professional X too do. They need to learn about something that a

professional X does that they didn't know was part of the profession and then do that thing. They need someone they know (a peer, perhaps, or a parent) to see them as a professional X. And the virtual world of the game in which they are a professional X needs to be consistent in treating them like professionals rather than school students". (Shaffer 2006, p. 159).

Shaffer is talking about the power of video game representations of professional practica – which he calls "epistemic games". This statement shows how close the world of game-based learning or "serious games" has become to the applied theatre or process drama approaches familiar to many drama educators.

Shaffer and Resnick (1999) in a discussion of "epistemic games" describe "thickly authentic" learning contexts, as ones in which the learner uses real tools, knowledge and practices to address issues they care about. They claim that a more difficult prospect that conducting research in them, is the actual creation of an environment in which this type of learning can occur. They are interested in creating contexts where the interests and concerns of the learners are aligned with a domain of knowledge, including authentic and valued practices and modes of assessment. As Shaffer says, "In thickly authentic settings content is freely accessible, and motivation is easy. Creating thickly authentic environments though is hard" (Shaffer 2005, p. 1).

However, as already noted, there is a large body of expertise and experience in the educational drama world, which has worked to create thickly authentic settings with few resources and limited budgets and has developed a wide range of techniques for doing so. Drama teachers also know that developing thickly authentic learning environments in schools has always been difficult because these ways of working, based on a communities of practice level of real-world expertise, are largely absent from the current school curriculum. Much of the traditional school curriculum still operates on the basis of a transmission model of educational practice. These models,

as Shaffer says, are derived from "…medieval scholarship constituted within schools developed in the industrial revolution." (Shaffer & Gee 2005, p. 24). Part of the problem is that the industrial time management model of classroom practice discourages a range of innovative teaching, including a communities of practice approach as well as drama teaching. Students need to have time to think and work in depth in the discourse of a community of practice if they are to grapple with the complex problems of content it presents. This cannot be accomplished in 40-minute chunks of time, which are then assessed by standardized tests.

Teachers have long known that the most authentic contexts for learning involve engagement and immersion by becoming a participant in a learning community. Yet practical constraints such as access and time have limited the extent to which this can occur in traditional schooling. The apprenticeship model of engagement is generally applied in post-school/pre-career education and because of a focus on high status literary models of learning is generally undervalued as an educational pedagogy. However in the emerging learning environment of the digital age this has radically changed, as knowledge management and the ability to work in virtual groups becomes an essential skill. Both mantle of the expert and epistemic games simulate this immersion model by using the power of the new technologies to enter the skills and knowledge base of a community of practice. They harness "…the conventions of participation that individuals internalise when they become acculturated" (Shaffer 2005, p. 1) to access a community's way of thinking. Engaging with real knowledge, via the resources of the Internet, can enhance the authenticity of content-based learning. Students who are dramatically framed to participate in virtual communities can work and think in innovative ways as trainee professionals within the knowledge

base of the community. Adopting this framing and accessing such mediated learning communities can bring educators closer to the aims of situated and social learning.

Shaffer (2005), Gee (2005) and others discuss this form of learning based on epistemic games. They see the potential to apply technology and appropriate learning systems from some digital games to create a learning environment that places students within a virtual professional community of practice. Shaffer (2005) describes a scenario in which students learn about town planning by using professional software, acting in role as city planners, and producing plans which they present to a representative from the city planning office. To drama educators familiar with process drama, the parallels are obvious. The *Madison 2200* project described by Shaffer parallels Dorothy Heathcote's Mantle of the Expert model, with both strategies taking their respective underlying forms (videogame and drama) into seemingly alien territory, yet in reality drawing on the power of these forms to generate powerful and engaging learning experiences:

> Perhaps this epistemic game doesn't seem very game-like—not as game-like, say, as *SimCity* or *Full Spectrum Warrior*. The students in *Madison 2200* did enjoy their work. But more importantly, the experience let them inhabit an imaginary world in which they were urban planners. They first entered that world because they had volunteered to participate in an experimental workshop. But the world of *Madison 2200* recruited these students to new practices, identities, interests, and understandings as part of a new way of seeing the world. Urban planners have a particular way of identifying, evaluating, and addressing urban issues. By participating in an epistemic game based on these practices, students began to appropriate the epistemic frame of urban planning. This was play. Most serious play. Epistemic play. And as a result, it was fun, too. (Shaffer, 2005).

The similarities between epistemic games and the Mantle of the Expert model lie in the application of a process to a task that has been derived from a community of practice basis and a form of learning through apprenticeship. For example, Dorothy

Heathcote's hospital garden designers (Heathcote 2003) need access to the world and discourse of garden design. The mediated mantle of the expert model proposed here uses process drama and online situated role to achieve this, while the epistemic games approach put forward by Shaffer uses digital games to achieve the same ends. The epistemic games model is directly connected to the technologically driven computer games movement whilst the Mantle of the Expert model draws on the powerful traditions of process drama and applied theatre. The epistemic games movement calls for "richly authentic settings", while the Mantle of the Expert model also provides those settings for students to work within. This convergence of thinking from two very different educational perspectives demonstrates the developing synergies between the teaching strategies of Mantle of the Expert drama and epistemic games both using a common communities of practice learning approach.

Comparison between Mantle of the Expert and epistemic games

In Table 1 we have attempted to compare the fundamental elements of MoE and epistemic games. While the terms used by drama and video game educators may differ, it is clear that they share similar conceptual understandings regarding the use of role-play, problem-solving, simulation and connections to real world expertise as an approach to learning. We acknowledge that this paper concentrates on the similarities between the forms, as it argues for consideration of the potential benefits that might be gained from the sharing of expertise, experience and knowledge from these converging fields. There is clearly scope for further work in this area.

Table 1: A comparison of features between Mantle of the Expert and epistemic games

Mantle of the expert	Epistemic games
Dramatic Frame: Entering the world of the drama using drama conventions	Epistemic Frame: Entering the simulation environment
Role: Attitudinal (not a character) professional discourse (often at trainee level)	Task Identity Real profession (professional discourse)
Enterprise: Drama based, but authentic	Task: Game based, but authentic
Client focus: Enterprise needs to serve the client	Project focus: Working on project or task appropriate to profession
Practicum: Join community of practice through role based drama to meet needs of client. Develop expertise	Practicum: Game-based practicum replicates key features of learning in community of practice. Develop expertise.
Problem: Introduces dramatic tension to increase level of commitment and intensify task focus and creative outcome.	Problem: Tension in 'conversation' between problem-solving individuals and the community of practice leads to creative solutions
Engagement: Adopting community of practice knowledge, identity and value system to solve problem	Simulation: adopting epistemology of a community of practice to solve problem
Performance: Learning is displayed. Solution is presented to client. Performance occurs within from protection of expert role	Performance: Learning is displayed. Outcome seen by known other (Peers, mentor, parents) as professional presentation.

Mantle of the Expert relies upon the conventions of drama to engage participants in the world being explored and the authenticity of the problems to be solved. While there is always an element of "suspension of disbelief" required, MoE uses the dramatic frame to enable participants to act "as if" they are experts engaged in real tasks as members of a community of practice. Similarly, epistemic games require that learners enter the world being simulated by the game environment. This does not mean a high fidelity virtual reality system is required – rather, it is the authenticity of the problem, and the professional approaches to solving it, that will engage the learner to act "as if" they are a member of that community of practice. As with Mantle of the

Expert, epistemic games are about giving students an appropriate and authentic worldview with which to view, explore, define and solve problems:

> "An *epistemic game* is a game that deliberately creates the *epistemic frame* of a socially valued community by re-creating the process by which individuals develop the skills, knowledge, identities, values, and epistemology of that community". (Shaffer 2006, p. 164).

There are a number of role conventions used in applied drama – particularly educational drama forms such as MoE - that inform and define the nature of the role-play functioning within these learning moments. MoE for example allows for participants to quickly engage in the profession being simulated by adopting an "attitudinal" role (Carroll & Cameron 2005) that does not require deep knowledge or experience, or high-level acting ability. By adopting the attitude and discourse of the profession, students can start to engage in the tasks at hand, often inducted to the role as a trainee in that profession. In epistemic games, the participant takes on the task of a real professional, using the discourse of that professional community to define and tackle a problem that would be encountered in that profession. The epistemic frame engages the student in role as a professional by prompting them to adopt the skills, knowledge, identity, values and reflective learning methods of that profession.

Shaffer emphasises that epistemic games should focus on authentic problems of significance in order to engage the learner in a valid and powerful task appropriate to the future needs of the students, and to give them a sense of power over their learning:

> "If schools are going to adapt to new social and economic conditions, we need to develop viable alternative models of learning that excite parents, teachers, administrators, business leaders, politicians, and others who care about what happens in schools. And of course it would be important that these alternatives actually help prepare kids to be innovative thinkers in a complex, post-industrial world." (Shaffer 2006, pp 183-184).

The designers of epistemic games seek to identify the ways in which professionals learn, and to replicate those elements of the practicum that lend themselves most effectively to the simulation environment. Although game-based, the tasks and problems need to be authentically grounded. In Mantle of the Expert, again the enterprise or project needs to be authentic as framed within a dramatic context. Whether being approached from a drama or a game perspective, the tasks and problems at the centre of the learning experience need to be founded in a real world representation of the problems and problem-solving methods.

Part of the authenticity of tasks in MoE or epistemic game learning approaches comes from the focus on producing work for a client, rather than for assessment by the teacher. The enterprise being explored by MoE needs to serve the needs of a client. In some cases, the client may be a real person or organization for whom the participants will produce and present work. Or the client may be fictionalised and incorporated into the drama. With epistemic games, the participants need to be working on a project or task that is considered appropriate and authentic to the profession. Again, this may involve a real or potential client, but an engagement with professional mentors or practitioners where possible is an important element.

In both cases, it can be seen that access to and contact with the knowledge base of real communities of practice – often more conveniently through a mediated, online form – might allow for greater engagement between learners and professionals than might otherwise be feasible or possible. In MoE the participants develop expertise by joining a community of practice via role-based drama, and serving the needs of a

client. Epistemic games are fundamentally built around the real practicum of a profession, replicating key features of how members of the professional community learn. Similarly, both approaches need to be developed around a problem that needs to be solved. In MoE, taking on a client increases the dramatic tension for the participants, thus increasing their levels of commitment and intensifying the focus on producing a creative solution for the client. By adopting the values of the community of practice with which they are connected, in role, the learners engage with the skills, knowledge and values required to solve the problem.

Epistemic games are built around the real work problem-solving methods of a profession, and creative solutions stem from the tensions in the 'conversations' that take place between participants and a community of practice. By adopting the reflective practices of professionals, learners simulate the real processes that tend to separate professions from other endeavours, such as an ability to creatively solve previously unseen problems, and to effectively reflect-in-practice.

Finally, participants in both MoE and epistemic games are required to display the product of their professional labours. In a drama form, learning is often displayed in the form of an in-role presentation to the dramatically framed client. The learners are protected in their role as professionals, and can talk from a position of expertise rather than as students. In epistemic games, learning is also often displayed in the form of a creative outcome to the problem being addressed. Where possible, this takes the form of a professional presentation of outcomes to an audience, such as peers, a mentor, or even parents.

Conclusion

Drama and games practitioners who are prepared to develop and use the emerging performance conventions inherent in mediated communities of practice will be able to engage students and explore authenticity and role-based performance in new ways. This is particularly useful in educational environment where access to levels of expertise within communities of practice is limited. Access to the knowledge, production and discourses of virtual communities, while not free is increasingly available through cheap and pervasive computer networks. However the importance of incorporating these new learning approaches in a school environment and curriculum structure, which has not yet caught up with the technological changes of the present day cannot be overestimated. In an increasingly fragmented and media-based world, students will continue to want authenticity within the drama or gaming experience. It remains the task of the teacher to adapt the conditions evolving in both the digital world and applied theatre to their classrooms and find the learning strategies that work.

By adapting the Mantle of the Expert or the epistemic games model to make use of a digital pre-text and online communities of practice, all teachers can share an extraordinary vision of education and drama combining to produce a project both virtual and real, built by adept practitioners and their apprentices in a digital world that only situated role can provide. We need to develop a pedagogical praxis (Shaffer 2004) that creates the environments that are true both to the ways of knowing embedded in mediated learning communities of practice and at the same time capable of supplying the skills young people need to incorporate into their learning. The technologies of online mediated learning environments may help us do this. Teachers

who apply this approach will be well placed to support their students in their future

life as both makers and appreciators of the newly evolving digital and dramatic

culture of contemporary society.

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