5P Guidelines/Rubric © for Assessing Provision of
Individual and Collaborative Learning Elements in a Learning Activity
Mapping Cognitive Science Against Learning Approaches
Analysis of <u>Communities of Practice by Team Up 4 Anything</u>

This rubric may be used to assess learning approaches to learning a language or other discipline. If what the cognitive scientists are saying is valid, then we as teachers and designers and theorists should be informed by the findings of cognitive science and assess our teaching plans accordingly. These guidelines and rubric is derived from the work of John Schumann and Klaus Scherer as well as the findings of cognitive neuroscience. The Schumann/Scherer Model of the Five Planes of Stimulus Appraisal maintains that to motivate learners intrinsically material must be **relevant, support a positive self and social image, be novel, be pleasant, and be within the learner's ability to cope with the task.** These assessments are emotionally based and relate to what the brain does to keep the individual alive and well (homeostats), to allow social interaction (sociostats) and are based on the summative experiences of a life (somatics).

This rubric is a mapping of aspects of instruction against elements of the Schumann/Scherer Planes of Stimulus Appraisal.

The goal is to increase the probability of achieving intrinsic motivation with respect to what is being delivered to and required of the learner.

The assumption is that a well prepared learning environment and module/unit has a greater likelihood of triggering interest and intrinsic motivation.

Use this rubric to assess your training design.

Element of Motivation	Accounted For? Y = Yes N= No NA = Not Applicable ? = Cannot Determine	Comments
Presentation:		
Material appears relevant to the needs and goals of the learner	Y	Absolutely. Members of a CoP are there because they WANT to be there, so relevance to the learner is innate, and the goals and needs to the learner are (hopefully) being met as long as the CoP is effective.
Material and/or presentation/stimulus is novel, should appear to be something	Y	Again, since members of a particular CoP are presumably there of their own volition, the information should be engaging to them. The purpose of the CoP is "not only to accumulate

new and interesting to the learner		knowledge, they also contribute to advancing knowledge" (Harasim), so by nature, the CoP should meet this requirement, otherwise it's not necessarily a CoP.
Presentation approach is intrinsically pleasant/interesting/stimulating/ thought provoking	Y/N (?)	The approach of presentation varies from CoP to CoP, it seems. For example, professional development days for teachers act as a sort of CoP since they will sometimes involve the entire district, so you have the opportunity to meet with other teachers in your subject area. These usually involve presentations and a little bit of interaction, but I wouldn't say they are always "pleasant" or "stimulating" - it really depends. But I imagine that a doctor who observes peers in their field (think of Grey's Anatomy) will find that MUCH more engaging and interesting. The Rogers article mentions that in order to make it sustainable, it MUST be intrinsically interesting!
Wording, visuals, audio, language are manageable and usable to the receiving group or individual creating the impression that the group or individual can master the material to the extent desired.	Y	Every CoP will present information in a particular way that suits the needs of the CoP. It seems like CoPs are largely based on discussion and collaboration, and the Rogers article indicates that in order to be successful, everything, all material and information, must be available to the members of CoP. Other than those facilitating, the idea of a CoP is that everyone is there to learn, no matter what "level" you are at. For example, a CoP for English teachers should be useful for anyone no matter how many years they have been teaching because in education, there is always room for learning.
Does the learning approach appear to provide for the elements of presentation? If not, why not?	Y	I believe it does; as stated before, CoPs are largely discussion-based and only exist because of collaboration. So the learning approach (collaborative learning theory), would definitely provide for the elements of presentation.
Practice:		I have a hard time separating this from production!! "How are we looking at how members of the community participate (can participate)? Are we arranging for shifting participation over time? What is the difference between collaboration, engagement and participation?" Berkeley, Communities of Practice

Opportunities are provided to develop proficiency in application of the skill, knowledge, ability or concept	Y	Users contribute and get feedback on their insights, ideally in such a way that the user's proficiency increases.
Practice opportunities appropriate to the objective(s) are provided	Y	It's the moderator's job to ensure this
Practice activities, to include repetition and spiraling, are designed to develop automaticity in responses and execution if appropriate	NA	Not necessarily. Depends on when someone enters the community. Is there a clear beginning & end or is it an ongoing/never-ending discussion?
Practice is relevant to needs and goals of the learner	Y	Joining a CoP is voluntary!
Activities are such that the Learner can see that skill/competency acquisition is taking place	Y	Active discussion in the community with feedback from other members
Practice requirements are within or slightly above learner's competency level	Y	Users in CoP's need to self-identify or self-select, so it's really up to them to decide. I get the impression that community members challenge each other's viewpoints in such a way that it increases overall competency.
Learners can perform practice requirements.	NA	Not sure how this applies :/
Practice is designed to lead to the desired outcome.	Y	Desired outcome = build knowledge web. Moderator ensures any contributions to the discussion are on track.
Practice activities, while not necessarily pleasant, would likely generate a feeling of accomplishment.	Y	I hope so! The goal is to create a welcoming community for anyone. Even the 'lurkers' may feel a sense of accomplishment for following the discussion and understanding what's going on.
Does the learning approach provide for practice? If not, why not?	Y	Ex. in Wikis - it's okay to submit something that's incorrect or imperfect, it'll be edited by reviewers
Production and Posting:		
What is produced is informed and scaffolded by practice—may even be concurrent with practice, i.e., repetitive practice may not be part of the learning task such as writing a paper, but the writing is both practice and production at the same time.	Coping	**YES** A strong community of practice/wisdom gives ample opportunity for practice that informs what is produced. Gaining knowledge from those in a similar domain allows you ingest that knowledge and turn it into practice.
Opportunity is provided to apply the skill,	Relevance Self and social status	**YES** There is as much opportunity to apply the skill, knowledge/ability as one would want. A

knowledge/ability or concept being learned	Coping	community of wisdom/practice brings together a collection of perspectives and allows you to choose what information you would like to apply. CoP's typically have a wide breadth of members from those that have participated for many years and those that are new to the field.
Production reinforces practice activities	Coping	This would depend on how one chose to practice from the knowledge of their community.
Whatever is produced by the learner is posted or provided to group for peer view and learning	Coping Self and Social Status (Accountability)	**YES** The intention of a community of practice is to bring together knowledge/skills/abilities. One crucial way of doing that is sharing what you have implemented and learned. Those experiences are what creates the community. The internet has allowed online communities to thrive in this area with the number of ways groups can post materials.
Does the approach require production or evidence of skill, knowledge, ability or concept acquisition? If not, why not?	Coping Relevance Self and social status	The key word here is "require." A community of wisdom/practice would hope to get knowledge from all members but it is not required.
Participation/Collaboration:		
There is opportunity for synchronous or asynchronous review of posted products	Self and Social Status Relevance Coping	Providing opportunities for asynchronous participation is a necessary component for many Communities of Practice. Rogers (2020) provides a list of methods to asynchronously nurture CoPs, including video recordings of Zoom meetings, podcast recordings, and - in the technical space - the provision of opportunities for asynchronous project work via sites like challenge.gov or up-for-grabs.net. It is recommended that CoPs meet weekly and that opportunities for asynchronous participation be made available (GOTO Conferences, 2016; Rogers, 2020). If this recommended structure is followed, the opportunity for both synchronous and asynchronous review of posted products will exist.
Teacher and peer feedback promote a Community of Practice/Wisdom/Knowledge	Self and Social Status Coping	The community of practice model is built upon wisdom and knowledge sharing in a community. The definition of Communities of Practice as stated by

	Relevance	Wenger-Trayner and Wenger-Trayner (2105) is "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (para. 5). This CoP model is predicated upon consistent interactions among people who share a domain of interest and actively practice within it (Wenger-Trayner & Wenger-Trayner, 2015).
		The three characteristics define a "Community of Practice" are:
		- "A shared **domain** of interest" (Wenger-Trayner & Wenger-Trayner, 2015, para. 8). Members share commitment and competence.
		- Regular **community** interaction via work in the shared domain
		- Community members that actively **practice**
		Communities of practice engage in activities that include: "problem solving, request for information, seeking experience, reusing assets, coordination and synergy, building an argument, growing confidence, discussing new developments, documenting projects, visits, and identifying gaps in competence" (Wenger-Trayner & Wenger-Trayner, 2015, graph 1). These activities require communication and feedback among members. Roles may be fluid, however; the person assuming the position of "teacher" or "student" depends upon the situation.
Teacher and cohort can see who is contributing and how they are contributing to knowledge sharing	Self and Social Status and Accountability	The forms in which Communities of Practice manifest are many and varied, so the answer to this question – and many others – is "sometimes." As Wenger-Trayner and Wenger-Trayner (2015) state, these communities can be large or small, intimate or accredited, confined to an organization or welcoming of many, and there are some that " are completely informal and even invisible" (para.14).
		Within a Community of Practice there are shared responsibilities, but these communities are unfettered by classic formal expectations (Wenger-Trayner & Wenger-Trayner, 2015). Defining characteristics of a CoP include nonhierarchical structure and voluntary membership (GOTO Conferences, 2016). It is expected that members of the community will vary in

		commitment and engagement levels. The "core" members guide the community and ensure its survival, while active, occasional, peripheral, and outside participants acceptably engage to varying degrees (GOTO Conferences, 2016). While a CoP encourages, welcomes, and even requires individual members to contribute to group wisdom sharing, formal accountability for all to contribute equally is not necessarily part of the structure. A charter or manifesto often provides a CoP with direction (GOTO Conferences, 2016). In identifying the general community guidelines, a charter will likely specifically address the degree of contribution that particular CoP expects (The Q community, 2019).
Variation in task readiness and ability to contribute is dealt with by providing group activities and effort to meet goals	Self and Social Status Coping	The term "Community of Practice" was originally introduced by anthropologists Jean Lave and Etienne Wenger to refer to learning models in which the entire community educates the apprentice (Wenger-Trayner & Wenger-Trayner, 2015). The community is seen "as a living curriculum" (Wenger-Trayner & Wenger-Trayner, 2015, para. 17), Everyone in the community, regardless of readiness level (ranging from novice to expert) is part of the learning experience. Roles are fluid, and every member is ideally capable of both edifying and being edified. Group activities link CoPs, creating and sustaining them.
Virtual opportunities to meet and collaborate are provided for if face to face meetings are not feasible and the instruction is online or blended	Self and Social Status Coping Relevance Pleasantness	In-person, virtual, and blended versions of Communities of Practice exist, and implementation of virtual tools to sustain communities is encouraged. Emily Webber, in her presentation at the 2016 International Software Development Conference, expressed that building Communities of Practice is best accomplished face-to-face, but capitalizing on tools like video conferencing applications and the

		"random conversation" channel on Slack supports building and sustaining CoPs when in-person interactions are not possible (GOTO Conferences, 2016). Emily Webber does warn, however, to not confuse tools with community. Just because a communication tool is in place within an organization does not necessarily mean that a Community of Practice exists within it. Intentionality and consistency are key.
Does the learning approach provide for collaboration? If not, why not?		Collaborating on real issues is the heart of what Communities of Practices aim to do. The very definition states that a Community of Practice is a group "of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger-Trayner & Wenger-Trayner, 2015). Interaction between invested individuals is fundamental. It is asserted that one of the main benefits of CoPs is the fact that "we learn better when we learn together" (GOTO Conferences, 2016). Solution optimization is achieved via the collective wisdom of the community (GOTO Conferences, 2016).

Suggestions to the user:

1. Consider Behaviorist elements in the learning activity or that could enhance it if included.

Not really much behaviorism! A Community of Practice might implement tenets of behaviorism in their practice, but the concept of a Community of Practice is not behaviorist in nature.

2. Consider Cognitivist elements in the learning activity or that could enhance it if included.

The cognitivist theory was concerned with what comes between stimulus and response, seeking to understand the processes of the mind– the processes that the behaviors had to reject.
- Cognitive science is the study of how the brain processes and retains information, and it has been applied to various learning approaches to enhance the effectiveness of learning. "The cognitivist theory was concerned with what comes between stimulus and response, seeking to understand the processes of the mind– the processes that the behaviors had to reject. (Harasim, 2017, p.49)"

- Providing learners with clear objectives and goals can help them to focus their attention and improve their motivation to learn. This aligns with the cognitivist approach, which emphasizes the importance of mental processes such as attention, perception, and memory in learning.

- Incorporating active learning strategies such as problem-solving, critical thinking, and concept mapping can help learners to engage with the material more deeply and create meaningful connections between different concepts. These strategies align with the cognitivist approach, which emphasizes the importance of constructing new knowledge through active engagement with the material.
- Metacognition: Metacognition is the ability to think about one's own thinking. Communities of practice can encourage members to reflect on their own learning processes and to develop strategies for improving their learning and problem-solving skills.

- Providing learners with feedback on their learning progress can help them to monitor their own understanding and adjust their learning strategies accordingly. This aligns with the cognitivist approach, which emphasizes the importance of metacognition in learning.

- Creating a supportive learning environment that encourages learners to take risks, ask questions, and collaborate with peers can enhance their motivation and engagement with the material. This aligns with the social-cognitive approach, which emphasizes the importance of social factors in learning.

3. Consider Constructivist elements in the learning activity or that could enhance it if included.

Constructivist learning theory is the idea that "people construct their own understanding and knowledge of the world through experiencing the world, and reflecting on those experiences" (Harasim, 2017, p. 62). If that doesn't completely capture that idea of Communities of Practice/Wisdom, then I don't know what does! However, constructivism does include that idea of a teacher, which a CoP doesn't necessarily need or should have - the idea behind a CoP is that it's peer-driven, and everyone is there to learn and improve.

Additionally, constructivism encourages the idea of "building" knowledge rather than acquiring it (Duffy and Cunningham), and when putting together a CoP, that is something that should be taken into consideration to ensure its success. It also depends on the goal of the CoP; it seems like this can widely vary depending on its purpose. Some CoPs may exist in order to generate new ideas and knowledge in a particular field, while others may serve the needs of a general community by spreading information and knowledge that already exists.

4. Consider Connectivist elements in the learning activity or that could enhance it if included.

Connectivism emphasizes "network-organized learning" that functions *without* an instructor. It is the computer network that "identifies and organizes links for each learner" (Harasim, 2017, p. 81). Wenger-Trayner & Wenger-Trayner (2015) address a common CoP myth - that no one leads these communities - by stating that, "whether you call them leaders, co-ordinators, or stewards,

someone needs to do it - and it is as well to recognize them for the role they play" (para. 38). In contrast to a connectivist framework, human guidance and leadership are required for a CoP to function.

Wenger-Trayner and Wenger-Trayner (2015) acknowledge the potential technology has to bring people with shared interests together, but assert that "the online universe is cluttered with spaces that nobody uses…A tool or technology is as good as it is useful to the people who use it. And a forum is simply a forum until it becomes occupied by a community of practice" (para. 44). A key tenet of connectivism - that "learning may reside in non-human appliances" (Harasim, 2017, p. 82) - is in direct contrast to the Community of Practice model. In a CoP, harnessing the collective *human* intelligence of the group is the goal. The "techno-utopianism" (Harasim, 2017, p. 99) suggested by Downes and Siemens' connectivism is rejected in the CoP's human-centric model.

5. Consider Collaborativist (Community of Practice/Wisdom/Inquiry) elements in the learning activity or that could enhance it if included.
    - CoPs are by nature rooted in Collaborativism.
    - Understanding that knowledge is every-evolving and the only way to create a cohesive body of knowledge is by inviting alternate viewpoints from around the world, until an objective 'truth' can be reached.

6. Assess whether Schumann/Scherer Planes of Stimulus Appraisal (relevance, self and social status, novelty, pleasantness, and coping) are addressed/not addressed.

SS Planes…	Addressed? yes/no	Explanation
Relevance	Yes	Participation in a Community of Practice is, by definition, a voluntary endeavor (GOTO Conferences, 2016). Members self-identify based on shared "concern or…passion" (Wenger-Trayner & Wenger-Trayner, 2015) for an issue they actively engage with. Personal relevance must be present in order for an individual to become a member of a CoP. As Wenger-Trayner & Wenger-Trayner (2015) state, "The domain must be relevant and a priority to members…Members need to see results of their participation and have a sense that they are getting something out of it" (para. 42).
Self & social status	Yes	Those who participate in a CoP are doing so because they wish to learn something about a

		particular field, and this will, hopefully, lead to a positive promotion of self image.
Novelty		
Pleasantness	Yes!	In order for CoP to be successful, new members need to feel welcome. Facilitators want/need strong core group of contributors, so the interactions should be pleasant.
Coping	Yes	Yes, ideally CoP community members work to ensure that all members are able to cope. Group dynamics hope to build up the coping skills of all.

7. Assess your application of learning theories to include *enhancements* you think may be necessary.

We love that by nature, CoPs acknowledge that enhancements are always needed. It seems that the guidelines for creating a successful CoP are under construction (perhaps always will be). The basis for judging success of a CoP is also being established, and based on Harasim text, there are structured analytical frameworks in place ([Harasim, p 178, see "Notes" doc](#)).

It seems to me that one of the main critiques of CoPs might be their relative novelty in the space of instructional design, and the lack of profound supporting evidence that accompanies that youth. Jean Lave and Etienne Wegner only introduced this model in 1991 (Pappas, 2023).

Gunawardena et al. (2006) propose the "WisCom" model to facilitate optimization of online communities of wisdom. Exemplifying this need for evidence, they acknowledge, "More studies are needed to test the model in different online learning contexts with diverse learners" (p. 23). They further note that "the nature of knowledge within a content domain is complex, disciplinary fields are evolving, and domain knowledge is continually being constructed," (Gunawardena et al, 2006, p. 24) rendering the creation of replicable communities challenging.

I take no issue with any of the proposed tents of Communities of Practice/Communities of Wisdom, and am hard pressed to propose specific enhancements. The goal to form supportive, sustainable groups of devoted practitioners is laudable. It is relevant to note that the goals of CoP are lofty, within a relatively novel framework. Further formalized studies on the efficacy of this proposed framework ought to be conducted.
Tricia: There is no one-size-fits-all answer to what enhancements are necessary in communities of practice, as each community has its own unique needs and challenges.

8. Take a meta-look at the learning and design theories and strategies you are applying to see

that they are complementary and supportive of what it takes to increase the probability of *emotional commitment*.

Simple recommendations, like the one made by Emily Webber - to have Communities of Practice meet once weekly - hope to optimize emotional commitment (GOTO Conferences, 2016). If community members see their fellows actively engaged, they will be motivated and encouraged to commit themselves.

Rogers (2020) makes notable recommendations for the creation of sustainable CoPs: make them fun via the use of online games and interactive challenges, and provide opportunities for asynchronous engagement. If CoP members can see that the core community are passionate about what brought them together, and the goal of sustaining membership commitment, it is likely that general emotional commitment will be bolstered.

As Emily Webber stated in her 2016 International Software Development Conference presentation, one of the keys to fostering a "sense of community" is "emotional connection." She posits that this emotional connection is based on "shared history and shared participation" (GOTO Conferences, 2016). Speaking to a shared history and facilitating active participation will serve to build emotional connection and commitment.

Summary

The Community of Practice model is aspirational, but accessible. The idealized version of a CoP builds up all members. Our team found it easy to identify multiple examples in our lives. As a "living curriculum" (Wenger-Trayner & Wenger-Trayner, 2015, para. 17), the members of a CoP share wisdom and feel safe to make mistakes and grow together.

While CoPs are vulnerable to pitfalls - dominant personalities, disintegration if leadership is lacking, group resistance to change, etc. - they carry strong potential to facilitate growth among community members drawn together by a shared passion.

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