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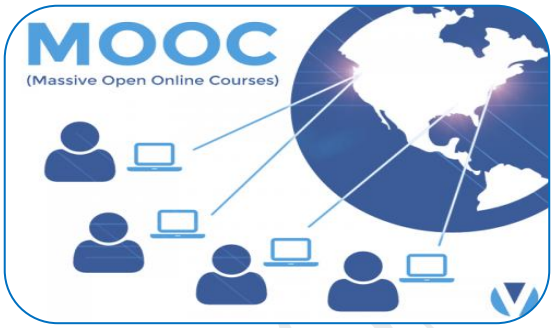
MASSIVE OPEN ONLINE COURSES (MOOCs) AND SELF REGULATED LEARNING



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ABSTRACT:

Massive open online courses (MOOCs) have the potential to transform professional learning, but require learners to be self-regulated. MOOCs require individual learners to be able to self-regulate their learning, determining when and how they engage. However, MOOCs attract learners with different motivations and prior experience. One of the major challenges in learning through MOOCs is the ability of the learner's to set goals and self-regulate their learning behaviour online. This paper focuses on the self-regulated learning and strategies self regulated learners apply in pursuing a MOOC Course. Particularly focus is on how learners' motivations for taking a MOOC influence their behaviour and usage of SRL strategies. This paper also focuses on the interaction of self regulated learning in line with learners' motivations and goals in conceptualizing the purpose of the MOOCs. This paper also focuses on the 'charting' technique and also give seven essential self regulatory strategies one should posses in order to be a successful MOOCs learner.

KEYWORDS: *Massive open online courses, MOOCs, Self regulated learning, SRL*

INTRODUCTION:

Prior to the Digital Age, Learning in distance mode appeared in the form of correspondence courses in the 1890s-1920s. Later radio and television broadcast of courses is early form of e-learning. Typically less than five percent of the students would complete a course. The 21st century saw changes in online or e-learning and distance education. With increasing online presence, open learning opportunities, and the development of Massive Open Online Courses (MOOCs). The term MOOC was coined by Dave Cormier. This refers to a course developed by Stephen Downes and George Siemens entitled Connectivism and Connectivity Knowledge in 2008. Their intention was to exploit the possibility for interactions between a wide variety of participants made possible by online tools so as to provide a richer learning environment than traditional tools would allow. MOOCs are a latest hit in online learning, and are positioned as an alternative to conventional higher education courses (Yuan & Powell 2013). The most successful initiatives in the MOOC area, such as Coursera, edX, Udacity, FutureLearn or MiríadaX are getting strong attention from the media (Pappano 2012). MOOCs have brought a revolution to the education sector in a very short time. These have opened up opportunities for new pedagogies (Martin 2012) and business models (Kolowich 2012), enabling thousands of students access to free, high quality education. This free access makes it possible for people all around the globe to register in MOOCs (Mackness et al. 2010).

MOOCs have two different types: First type emphasize the connectivist philosophy, and the second type resemble more traditional courses. To distinguish the two, Stephen Downes proposed the terms "cMOOC" and "xMOOC".

xMOOCs have a much more traditional course structure typically with a clearly specified syllabus of recorded lectures and self-test problems. They make use of elements of the original MOOC, but are, in reality, branded Information Technology platforms that offer content supply partnerships to institutions. The instructor is the expert provided of knowledge, and student interactions are usually limited to asking for help in understanding the concepts and advising each other on difficult points.

- Learning objectives and goals defined by instructor
- Learning pathways prepared by environment
- Limited interaction with other learners.

Ex: edX, Coursera, , Class2gom Codeacademy, Canvas Net eCornell, Futurelearn, NPTEL Openstudy, OpenHPI, Udacity, UniMOOC-Tec, 10gen Etc…

cMOOCs are based on principles from connectivist pedagogy indicating that material should be aggregated (rather than pre-selected), remixable, re-purposable, and feeding forward (i.e. evolving materials should be targeted at future learning). cMOOC instructional design approaches attempt to connect students to each other to answer questions and/or collaborate on shared projects. This may include emphasizing collaborative development of the MOOC.Ravenscroft claimed that connectivist MOOCs better support collaborative dialogue and knowledge building.

- Learning objectives and goals defined by learner.
- Learning pathways ill defined.
- Interaction with others depends on the learner.

Ex: CCK08, Change 11, DS106, HowtoMOOC, MoocMooc, MOOCDL, MechanicalMOOC OCTEL, ODLMOOC, PHONAR Etc…

As discussed above cMOOCs are designed around a self-guided format that assumes learners can self-regulate their own learning, rather than relying on teacher guidance. Factors affecting self-regulated learning in formal, online courses are well documented and include self-efficacy, interaction with other people, and task strategies. MOOCs, however, are qualitatively different in scale and openness. The strategies needed for effective self-regulated learning in MOOCs are **not well understood**.

The MOOC Guide suggests five possible challenges for cMOOCs:

1. Relying on user-generated content can create a confused learning environment
2. Digital literacy is essential to make use of the online materials
3. The time and effort required from participants may go beyond what students are willing to commit to a free online course
4. Once the course is released, content will be reshaped and reinterpreted by most of the students, making the course path difficult for instructors to control
5. Learners must self-regulate and set their own goals.

This shows the need and importance of Self regulated learning and SRL Strategies in learning through MOOCs.

SELF REGULATION AND SELF REGULATED LEARNING:

Self regulation is the term that describes the process of taking control and evaluation of one's own learning and behaviour. It is guided by meta-cognition (thinking about thinking), *strategic action* (planning, monitoring, and evaluating personal progress against a standard), and *motivation to learn*. Self-regulation includes 'self-generated thoughts, feelings and actions that are planned and cyclically adapted to the attainment of personal goals' (Zimmerman, 2000, p. 14). Zimmermann's theory describes learning in three phases. They are planning, performance and self-reflection. These three phases are interconnected through affective, behavioural and cognitive sub-processes. Sub-processes vary from cognitive factors such as motivation, interest, self-reflection and self-evaluation, to

behavioural factors such as goal-setting and learning strategies, to cognitive factors including self-efficacy and self-satisfaction (Fontana Milligan, Littlejohn & Margaryan, 2015).

CHARACTERISTICS OF SELF REGULATED LEARNER:

As discussed, Self-regulated learning is the deliberate planning and monitoring of the cognitive and affective processes involved in completing academic tasks. According to Winne (1995), most effective learners are self-regulating.

Students with high self regulatory skills:

- tend to learn better under learner control than program control situations
- able to monitor, evaluate, or manage their learning effectively during learner controlled instruction with embedded questions
- reduce instructional time required to complete the lesson when they have control
- manage their learning and time efficiently

Self-regulated learners are "metacognitively, motivationally, and behaviorally active participants in their own learning process" (Zimmerman). To accomplish their goals, learners set personal goals, perform strategically, monitor their progress, and adapt their approach. These skills are essential for life-long learners. Whether managing a business or developing a work of art, people must be self-reliant. Zimmerman identified a number of strategies for self-regulation:

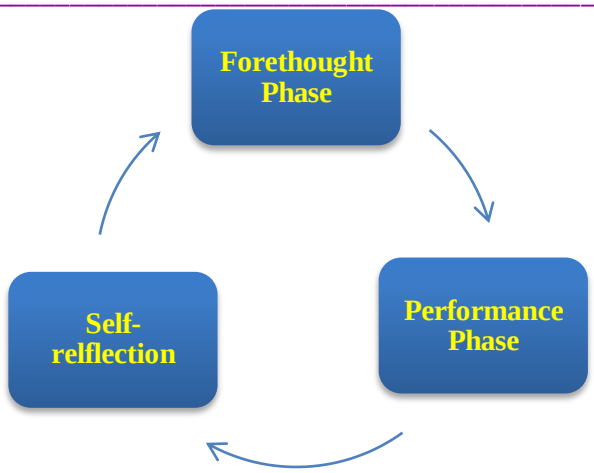
- self evaluation
- organizing and transforming
- goal-setting and planning
- seeking information
- keeping records and monitoring
- environmental structuring
- self consequating
- rehearsing and memorizing
- seeking social assistance
- reviewing records

According to Schunk and Zimmerman (1998), self-regulation is not a specific mental ability, instead it involves a series of component skills including:

- setting specific proximal goals for oneself
- adopting powerful strategies for attaining the goals
- monitoring one's performance selectively for signs of progress
- restructuring one's physical and social context to make it compatible with one's goals
- managing one's time use efficiently
- self-evaluating one's methods
- attributing causation to results
- Adapting future methods.

Zimmerman's three Phase model of self regulation:

Zimmerman Proposed a three stage Phase Cyclical for self regulated learning:



1. Forethought Phase
2. Performance phase
3. Self reflection Phase

Forethought Phase: This phase sets the stage for performance and involves task analysis and self-motivation. Students identify the requirements of an assignment, set goals, and plan strategies for use in their learning. For example, they may identify three questions they wish to answer and use specific Internet search strategies to locate information to address these questions. Students become self-motivated through intrinsic interest in a topic or through self-efficacy beliefs such as the expectation that answering a series of questions will lead them to a satisfying conclusion.

F1	Goal-setting –	Use of goals a mechanism for planning and achieving.
F2	Strategic planning	Purposive personal processes and actions directed at acquiring or displaying skill.
F3	Self-efficacy	Belief in one's ability/capacity to have some control over/cope in the role.
F4	Task interest/value	Disposition to focus on the task and its wider value rather than merely the outcome (intrinsic motivation),

Performance Phase: Self control and observation, Elaboration and Help seeking are elements of the performance phase. Self-control refers to acting on the strategies outlined in the forethought phase, while self-observation involves noting and thinking about progress. The learner may also experiment with ideas.

P1	Elaboration	Disposition to relate task to wider practice.
P2	Help-seeking	Seeking help from others or info sources.

Self-reflection Phase: This phase involves self-judgment and self-reaction. Learners draw comparisons about their performance against some standard when they self-evaluate. They may also search for causes of errors and attempt to attribute their problems to particular causes. The key to self-judgment is sustaining motivation by identifying strategies that can be used to address deficiencies. Self-reaction involves how a person responds to their performance. Adaptive reactions involve students making adjustments to increase their learning by modifying a method of learning such as shifting from a brainstormed list of ideas to creation of a concept map.

S1	self-satisfaction	motivation does not stem from goals, but on whether individuals feel they are achieving them
S2	self-evaluation	comparing performance against an external goal

Learning on MOOC is a Collective Knowledge and is occurs through **Charting.** Charting occurs when each learner maps his/ her learning pathway through planning, implementing & reflecting on learning goals. Builds individual & collective knowledge.

Charting involves Connect, Consume, Create and Contribute.

The interaction of SRL and Charting:

Various research reviews show that people who exhibit a high degree of Self-Regulation in their learning will use qualitatively different strategies to plan, monitor and reflect on their learning than individuals who exhibit a low degree of Self-Regulation in their learning. The summary of the interaction of SRL Strategies and Charting components are presented in the table:

	Consume	**Connect**	**Create**	**Contribute**
Forethought Phase	Research learning needs via search engine or trusted information sources.	Connect to personal learning network to seek advice, or identify others with similar learning goals	Formulate goals or complete development planning tool. (Goal setting)	Make goals or development plan or learning strategies public (Strategic Planning)
Performance Phase	Discover new knowledge to help achieve learning goals (enact task strategies)	Engage with others to achieve learning goals through collecting and connecting knowledge and developing new knowledge statures	New knowledge creation or augmenting existing knowledge	Make new knowledge and knowledge structures public through formal and informal mechanisms

Self-reflection Phase	Seek evidence for validation of strategy (self-evaluation)	Find others with similar experiences to establish/ confirm causality(i.e, this strategy produced theses results)	Personal , private reflection notes (Self-Judgement)	Public self-reflection through blogging or similar.

7 Potential rules to be a successful learner in MOOCs:

Self-Regulated Learners are learners whose thoughts, feelings and behaviours are oriented towards attaining goals and who understand learning, manage their learning and have both will and skill to learn. From the discussion of theory parts, followings are essential features of a Self-Regulated learner.

1. **Understanding the process of learning and the self as a learner:** Learning is an active process of making sense of experiences by building on existing knowledge through interaction with others. The goal of learning should understand which can be described as feeling of satisfaction, connectedness, irreversibility, able to explain, adopt and apply. This understanding of learning process will affect their learning goals and their learning strategies.

   The knowledge of what they like to learn and what they like to avoid, what motivates them and which learning strategy will work well for them, their strengths and weaknesses as learner form the base of self-regulated learning.
2. **Believing in the value of learning and own self as a learner:** Believing that the task is interesting and worth doing and its completion would lead to a feeling of satisfaction and belief in personal ability to achieve learning goals and tasks. Such learners put more effort to complete and attribute success to personal effort than to ability or luck.
3. **Setting learning Goals:** S/he provide direction and influence the choice of learning strategy. Setting clear, realistic and relevant goals lead to persistence and academic achievement. They set both short & long term goals.
4. **Using learning strategies appropriately:** learning strategies include
   a. Rehearsal: repeating, copying, underlining
   b. Elaboration: creating mental images, using analogies
   c. Organization : grouping, listing, concept mapping
   d. Critical Thinking: questioning ideas, testing solutions, considering alternative explanations.

   Self-regulated learners may know many such learning strategies and they also know when and how to use a particular strategy.
5. **Managing the learning process:** Self-regulated learners use metacognitive strategies of planning, monitoring, adopting and evaluating to manage their learning.
6. **Persistence:** Self-regulated learners recognise that learning is challenging and obstacles and negative feelings are a normal part of learning. So they try to overcome obstacles by trying alternative solutions, review goals or seeking help and manage negative feelings such as anxiety, anger or frustration by self-talk, discussion with family and friends or positive visualisation.
7. **Help Seeking:** When self-regulated learners face problems or obstacles, they seek help from peers or instructors / teachers. Such Adoptive help seeking keep learners engaged, prevent failure, increase chances of mastery and lead to independent learning. Help seeking is more likely to occur when learners are involved in learning and feel competent and autonomous.

CONCLUSION:

People who exhibit a high degree of Self-Regulation in their learning will use qualitatively different strategies to plan, monitor and reflect on their learning than individuals who exhibit a low degree of Self-Regulation in their learning.

Finally, students who are self-regulated learners believe that opportunities to take on challenging tasks, practice their learning, develop a deep understanding of subject matter, and exert

effort will give rise to academic success. In part, these characteristics may help to explain why self-regulated learners usually exhibit a high sense of self-efficacy.

Self regulated learners are successful because they control their learning environment. They exert this control by directing and regulating their own actions toward their learning goals. Self regulated learning should be used in three different phases of learning. The first phase is during the initial learning, the second phase is when troubleshooting a problem encountered during learning and the third phase is when they are trying to teach others.

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