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# Enhancing Learning Communities with Self-Regulated Learning Protocols

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### ABSTRACT

The concept of independence, central to self-regulated learning (SRL), differs from interdependence, the focus of learning communities. However, a hybridization of the two conceptualizations is not inimical. In fact, careful consideration of the thrust towards constructivist learning environments and the development of effective learning communities makes self-regulated learning an imperative in education at all levels. This is because self-regulated learning enhances learning outcomes and engagement in the learning process for both teachers and students. Learning communities have also been noted for their ability to enhance engagement, improve achievement, and facilitate authentic learning. Teachers are aware of the value of self-regulated learning (SRL), however, the extent to which it is perceived as critical to the success of effective learning communities is taken for granted. This position paper argues for the incorporation of SRL into the learning community pedagogic framework. In this context, the value and operationalization of SRL will be explored through explication of SRL studies implemented in real classrooms. Particular emphasis will be placed on the ways in which the aims of SRL and learning community pedagogies meet and diverge and the manner in which essential features of the two might be integrated to enhance the latter.

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#### Introduction

The importance of learning communities in tertiary education is self-evident, given that education by its very nature requires social engagement. This position paper argues for the integration of self-regulated learning principles. skills or competencies within the learning community In building this argument, the researcher framework. explores the fundamentals of effective learning communities and articulates the principles that define their value. Then, the principles of self-regulated learning are examined to extract the underlying factors and key concepts that can be integrated with learning communities principles in order to enhance them. The main premise of this paper is that learning communities are rendered more effective if their members are equipped with the skills and competencies developed in selfregulated learning protocols. The ways in which the principles and concepts of learning communities and selfregulated learning meet and conflate form the basis of this argument. A model for integrating SRL in learning communities will be proffered to facilitate the hybridization the two conceptualizations.

# Learning Community Defined

In its simplest form, a learning community (LC) may be defined as a group of students pursuing a collection of courses at the same time (Abbott, 2012). The simultaneity of the LC courses is only the first link among them. At a deeper level, one can expect to find curriculum structures that allow connectedness among the particular courses. In such circumstances, the actual contents of the courses are either reorganized or restructured to integrate the salient elements along a particular theme or other factor. This thematic

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integration creates opportunities for students to gain better insight and understanding from the materials under study (Abbott). As an example, Beaulieu and Williams (2006) identified a small discussion-oriented class featuring an interdisciplinary curriculum of a group of general education courses. Similarly, groups of Bachelor of Education students at the University of Trinidad and Tobago purse a common block of courses each semester during their first and second years of the programme.

According to Digenti (1998), an effective learning community is built on a combination of cognitive and affective learning processes. On the intellectual side, Rambe (2012) cited Garrison and Cleveland-Jones (2005) who suggested that the learning community must create opportunities for the sustenance of interaction and reflection, a place where there is critique and exploration of ideas and where these processes are scaffolded and modeled. In its operationalization, Rambe also posited the need for the integration of three interdependent and dynamic structural elements: social presence, cognitive presence, and teaching presence, as cited in Akol et al. (2009).

To enhance social presence, some learning communities make out-of-class activities compulsory (Pike et al., 2011). For the development of intellectual presence, Kemp (2010) argued that an environment must be created where students can engage in the mutual sharing of knowledge, reciprocal learning, and knowledge creation.

At the micro level, Kemp (2010) identified the individual as able to acquire not only knowledge but also collaborative, creative, critical thinking, and problem-solving competencies that are valued in the workplace. This is because students in a particular learning community are required to work together on authentic tasks, clearly articulate and explain their ideas as well as listen to and correctly interpret the ideas of others (Rosson, Sinha, Zhao, Carroll, Ganoe & Mahar 2009).

# **Functions of a Learning Community**

Digenti (1998) postulated that the main functions of learning communities are to "encourage individual reflection, and support the individual in acquiring, reflecting upon and remembering learning" (p. 91). Another important function of a learning community is to link similar courses together so as to facilitate knowledge transfer. Thus, writing courses may be linked to content courses (Engstrom & Tinto, 2008). At the University of Trinidad and Tobago, students enrolled in the Bachelor of education programme are in a learning community where they all take the same first- and secondyear courses; two writing courses anchor the block of courses Additionally, group-work and collaborations are offered. encouraged within each course for research projects and other assignments that require students to work together collaboratively. However, since these features are more incidental than intentional to the programme, the essence of a true learning community is not experienced. This is not to say that students who create personal bonds and those who specialize in particular disciplines after the second year do not behave similarly to those in an established learning community. The difference between these groups and established learning communities is that the formalization of relationships, social responsibility, learning expectations, and access to resources is left too personal choice, turn of feelings or convenience.

# **Benefits of learning Communities**

# **Social Competencies of Learning Communities**

As far as Rosson et al. (2009) are concerned, learning communities should be developmental in scope, where learners have the opportunity to take on different roles and responsibilities as learning progresses along a continuum. These researchers also advise that, in joining such a community, members make an implicit commitment to advancing their own development while providing support to other members (Rosson et al., 2009). Firmin, et al. (2009) contend that learning communities are established for the sake of creating sustained social interaction in an academic space. Additionally, it is hoped that students will experience diverse social encounters that enhance their total university experience within a multicultural framework (Firmin et al., 2009). On a wider scale, learning communities are credited with creating a sense of belonging to the academic institution and its community (Cuevas, 2009).

## **Cognitive Competencies of Learning Communities**

While faculty-student encounters are usually confined to the university classroom, Firmin et al. (2009) envision learning communities as providing sustained intellectual interactions between both parties beyond the classroom. These additional academic interactions have the potential to deepen student learning and improve their understanding of course content. According to Pike et al. (2011), there appear to be positive benefits for participating in a learning community, including higher levels of achievement, learning, and greater student success (Taylor, 2003). In this vein, researchers have found that learning communities improve students' study strategies as well as their grade point averages (Cuevas, 2009).

#### **Cross-discipline Integration and Hybridisation**

Given their multi-course delivery structure, learning communities allow students more quality intellectual discourse with their professors, in addition to crossdisciplinary integration which may lead to deeper analysis and synthesis of the materials under study (Butler & Dawkins, 2007). This approach is also an imperative where cross-fertilization or hybridization of courses draw on students' ability to conduct thematic interpretation, extraction and analysis for meaningful learning outcomes (Tinto, Goodsell-Love, Russo & Parsely, 1994). Such thematic exploits often require students to engage in integrative projects that link at least two courses in order to fulfill course requirements (Lardner & Malnarich, 2009). In other circumstances, course clusters stimulate and facilitate skill transfer from one discipline to another so that students are expected to reconstitute the theory in one domain as application for another (Engstrom & Tinto, 2008).

### **Knowledge regeneration and creation**

Jenlink and Jenlink (2008) cite Lieberman (1994) who advised that learning communities be designed in such a way as to facilitate knowledge creation and instill constructivist ideals in students where cognitive conflict and controversy are seen as natural parts of the educative process. Burg, Klages, and Sokolski (2013) contend that students are expected to "recognize structural similarities between different ideas in varied disciplines and also to apply them to practical problem solving" (p. 4). Knowledge coconstruction and communicating the same are also essential parts of the learning community paradigm as learners are expected to bring others into their intellectual spaces for meaningful discourse (Cadima, Ojeda & Monguet, 2012). According to Salazar, Aguirre-Munoz, Fox and Nuanez-Lucas (2009), this means that students must question the status quo and push back intellectual boundaries through collective inquiry.

### Attitudinal competencies of learning communities

"Purposefulness, disciplinary grounding, interdisciplinary leveraging and reflective thoughtfulness" are critical attitudes and values that students in effective learning communities must hold (Burg, et al., 2013, p. 4). Firmin et al. (2009) argue that there should be "built-in mechanisms for formal and informal appraisals of the students' experiences' (p. 20). In other words, reflection must be seen as an essential and critical part of effective learning communities so that best-practice competencies can be identified. When well executed, learning communities are supposed to be egalitarian, with each member feeling a sense of equal power (Firmin et al., 2009). This sense of power is grounded in the responsibility that learners must take for their own learning (Abbott, 2012).

#### **Environment Restructuring Competencies of LCs**

Resource synthesis and integration are two important skills that students in effective learning communities must demonstrate because these are critical facets for multicourse hybridization and linkage. In this context, theoretical frameworks are not viewed as individual silos but elements that must be synthesized into new and enhanced wholes (Pella, 2011). At the curricula level, Bultler and Dawkins (2007) argue that learning communities demand that there be purposeful restructuring so that both courses and coursework facilitate greater coherence in learning.

#### The Problem

Not all students are equal; therefore, many students entering a learning community might not be equipped with the requisite academic, social, and affective skills to make the community a success. This is where, self-regulated learning can be introduced as a required academic protocol for students participating in learning communities

### Self-regulated learning (SRL) defined

Self-regulated learning is the ability of learners to regulate their cognition, motivation, affect, behavior, and environment in order to successfully achieve adaptive learning outcomes such as those found in learning communities. According to Zimmerman (2001), SRL occurs in a 4-phase cycle that begins with planning and ends with reflection.

The four regulated areas are cognition, motivation or affect, behavior, and context. These components are regulated by four phases: forethought, planning, and activation (phase one); monitoring (phase two); control (phase three); and reaction and reflection (phase four) (Pintrich, 2000). In other words, it is believed that under optimal conditions, selfregulated learners are able to strategically and competently approach and attain their academic goals according to four interlineal phases, notwithstanding the presence of personal constraints or environmental obstacles (Wolters, 2003).

According to this SRL framework, forethought, planning and activation refer to a learner's tendency to activate prior knowledge and analyse perceptions, then set goals, and plan for the execution of the task at hand (Pintrich & Zusho, 2002). The second phase, monitoring, involves metacognitive awareness of the strategies and competencies necessary for the demands of the various tasks as well as the capability to meet those demands in the given context. The third phase- control, represents the manifestation of purposive action and activity in the application or adaptation of specific strategies to regulate various aspects of the planned task. The fourth phase, reaction and reflection occur when learners step back mentally and assess what has been accomplished and explore what it means as far as the feelings it generates and the cognitive attribution it stimulates (Pintrich & Zusho, 2002).

### Motivational and Cognitive Factors of SRL

Pintrich and Zusho (2002) define self-regulated learning (SRL) as a process whereby learners set their own academic goals and attempt to actively and purposefully regulate, monitor, and control their thought processes, motivation, affect, task-related behaviors, and contextual factors in pursuit of these goals. Researchers embracing this conceptualization of self-regulated learning concur that the process occurs according to a four-phase cycle comprising forethought, monitoring, control, and reaction, and reflection (Pintrich, 2000; Pintrich & Zusho, 2002; Schunk, 2001; Stone, 2000; Zimmerman, 2001). Most SRL models are based on four theoretical assumptions.

These assumptions are that self-regulated learners are active constructive participants in the learning process; have the potential to control their cognition, motivation, and behavior, as well as some aspects of their environment; hold a specific goal, criterion, or standard against which they check their progress in order to regulate their task-related behavior; and use self-regulatory activities as mediators between personal and contextual variables and actual achievement or performance (Pintrich & Zusho, 2002). In addition, SR learners regulate four areas related to academic task engagement.

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Based on SRL reviews by Boekaerts, Pintrich and Zeidner (2000) and Schunk and Zimmerman (1994) SR learners are also deemed to be self-directed, reflective and competent learners who have the cognitive and metacognitive, as well as, motivational beliefs and attitudes needed to understand, monitor, and direct their own learning. Further, Corno (1992) notes that students need to be motivated to exert effort, persist in the face of difficulty, set challenging goals, and feel efficacious with their own accomplishments. Zimmerman (2002) argues that selfregulated students are not only more likely to succeed academically, but also view their futures optimistically because of their superior motivation and adaptive learning strategies (cognition). Other SRL theorists argue that motivation is a critical determinant of students' classroom learning and achievement, in part because students who are more highly motivated tend to exert greater effort and persist longer on academic tasks than those who are less motivated (Pintrich, 2000; Pintrich & Schunk, 1996; Pintrich & Schrauben, 1992). Zimmerman and Schunk (2001) point out that SRL models emphasize that motivational and cognitive factors must be considered together to understand students' behavior in academic contexts. As indicated earlier, motivation and cognition are considered the will and skill necessary for academic achievement

#### **Cognitive Benefits of Self-regulated Learning**

Self-regulated learners usually have a wide range of cognitive strategies that they can deploy to accomplish various academic tasks (Wolters, 2003). SR learners are also posited to have high levels of knowledge about cognitive strategies, as well as the ability to select, monitor, and regulate their use of those strategies when engaged in academic tasks (Wolters, 2003). As a result, they are thought to be quite proficient in using different strategies for rehearsal, organization, and elaboration of academic tasks (Alexander, Graham, & Harris, 1998; Pintrich & Schunk, 2002). Thus, SRL often lends itself to better performance and

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achievement outcomes, as previously indicated. Selfregulated learners are also informed by metacognition from themselves and others;

Therefore, they possess a significant store of metacognitive knowledge about learning strategies and their uses as well as the learning process (Borkowski, Carr, Rellinger, & Pressley, 1990; Butler & Winne, 1995; Paris & Paris, 2001; Pintrich, Wolters, & Baxter, 2000; Zimmerman, 2002). Metacognition enables students to monitor their learning and generate internal feedback on their cognitive processing (Butler & Winne, 1995; Cleary & Zimmerman, 2004). In an experimental study, college students showed that accurate metacognitive monitoring led to a clearer understanding of what they needed to study and the amount of time they needed to devote. This accurate study strategy calibration leads to an overall increase in test performance (Thiede- et al., 2003).

#### Benefits of SRL to academic behavior

SR learners are metacognitively skilled. This means that they are knowledgeable about the thinking and learning process and use strategies to monitor and control important aspects of their learning behavior (Wolters, 2003). For example, students who daydream, forget assignments, and rarely complete their work display little SRL compared to those who ask questions, make useful notes, and manage their time and resources judiciously (Paris & Paris, 2001).

More importantly, SR learners display motivated actions that are goal-directed and controlled behaviors that apply to specific situations (Paris & Paris, 2001). The goals they set also facilitate a high level of achievement. SR learners also try harder or exert greater mental effort (Pintrich & De Groot, 1990). In other words, they are adept at modifying their learning behaviors in response to dynamic situational demands or conditions.

#### Motivational benefits of SRL

Self-regulated learners exhibit an array of adaptive motivational beliefs and attitudes that include high levels of self-efficacy and an orientation toward increasing their level of mastery goal orientation (Pintrich, 2000b; Schunk & Ertmer, 2000). These beliefs and attitudes drive students' willingness to engage in and persist in academic tasks (Wolters, 2003). Not only do SR learners persist in academic tasks but they also show intrinsic interest, indicating that they value what they are learning (Pintrich & De Groot, 1990; Zimmerman, 1995). As such, they view learning as valuable, interesting, and useful (Schunk & Ertmer, 2000; Wigfield, 1994).

#### **Convergence between SRL and Learning communities**

Given the learning outcomes expected from learning communities, one can surmise that a learning community is as strong as its weakest link. Thus, the strength of a learning community is directly or indirectly proportional to the competencies that the individual members bring to the table. Self-regulated learners possess key competencies that can create successful learning communities. These competencies include the ability to successfully manage their cognitive skills, select appropriate learning strategies, think critically and deeply rather than superficially, engage in environmental restructuring and affective and motivational manipulation, and adopt socially interdependent postures during teachinglearning activities. A microanalytic perspective identifies and explicates the various SRL competencies that prepare students to become successful learning community members. Table 1 shows the factors that link self-regulated learning with learning community objectives, along with literature support.

In the table, overarching cognitive, social-cognitive, relational, affective, and environmental competencies that link SRL with learning community outcomes are outlined. Each row in the table reveals the principles of SRL that can empower community members to fulfill their roles to develop and enhance the success of the community. This is in the context of the relationship between the factors for which the integration of SRL in LCs is recommended. The linkages indicate that with customized SRL training, community members can be equipped with the requisite skills to make the LC experience successful. Indeed, if each group member is empowered, the collective strength of the group will improve and redound to the successful achievement of LC's learning objectives.

In summary, we can identify critical SRL competencies that the will directly benefit students in learning communities. Students trained in SRL skills can develop the ability to:

1. Reciprocally regulate cognitive and affective factors of information (Boekaerts, 1999).

2. Self-direct, control and adjust skills in order to meet learning goals (Zimmerman, 1989).

3. Activate and sustain intellectual pursuits, task related behaviours and emotions to reach learning goals (Janagam, Suresh & Nagarathinam cites Zimmerman, 2002).

4. Utilize an extensive repertoire of metacognitive, cognitive and behavioural strategies to achieve academic success (Pintrich, Smith, Garcia & McKeachie).

5. Shawer (2010) cites Zimmerman (2002) as reporting that SR learners as having the ability to monitor current and prior learning to change subsequent learning and self-create new feeling and actions to achieve independent learning

6. Operate, control and manage their environmental resources (Pintrich 1999).

7. Employ cognitive strategies like elaboration, organization and critical thinking

8. Utilise various resource management strategies

9. Use strategies for time management, effort regulation helpseeking and peer learning (Pintrich and De Groot, 1990).

10. Engage in self-directing and self-evaluation and controlling at different stages in the learning process due mainly to the internal locus of control that such students possess (Shahrara and Soleiman-Nejhas, 2001).

11. Interact with the social construals in the learning context given that the origins of SRL is social in nature (re:dyads and groups, Bandura, 1986; Ozdemir, 2011)

12. Higher order mental processes (re: abstract reasoning, and reflective cognitions)

13. Make meaningful transdiscipline connections and demonstrate innovative thinking (Mishra, Fahnoe, Henriksen, 2013).

#### **Developing SRL for Learning Communities**

Foerst et al. (2017) argued that university freshmen do not really know the ins and outs of SRL strategies. Their research revealed that even when students had in-depth knowledge of SRL strategies, there was a significant gap between knowledge and application. In the study by Foerst et al., university students argued that they either did not have sufficient time to apply SRL strategies, felt the strategies would not work, could not apply them effectively or were too difficult to implement. Such information is critical to the planning and design of SRL academic protocols for students at different stages of their university lives and experiences. On the other hand, Ventura et al. (2017) reported that beginner university students showed a greater tendency to use metacognitive self-regulation, cognitive review, and organizational strategies, while more advanced students utilized self-regulated strategies that developed better critical thinking abilities. This finding suggests that the use of SRL skills may be developmental in terms of students' experiences and time spent in academic programmes. Taken together, these findings underscore the need for a proper SRL academic protocol for new university students so that they can function effectively in learning communities.

Yot-Dominguez and Marcelo (2017) posited that students use SRL strategies even when learning with digital technologies, but mainly those related to finding information and acquiring social support. These researchers also believe that it is imperative that universities teach students how to use SRL strategies integrated with technology as both a means of developing academic competence as well as preparing for real-world practice and collaboration (Yot-Dominguez & Marcelo, 2017). Additionally, Chaves, et al. (2015) found that students' use of digital tools enhanced their SRL competencies in personal learning environments. Relatedly, Su, Zheng, Liang, and Tsai (2018) identified self-evaluation, environment restructuring, and goal-setting as the critical SRL factors which positively predicted various aspects of learning English as a foreign language (EFL) in an online environment. In addition, Valencia Serrano and Caicedo Tamayo (2017) argued that clear guidelines and instructions, greater cognitive challenge. qualitative evaluation. meaningful feedback, and the development of cognitive strategies in ICT are critical predictors of self-regulated learning. These findings broaden the scope of SRL to include students in online media learning environments, which are growing in popularity as learning communities. More importantly, these findings reinforce the need for an SRL academic protocol for students in learning communities.

Cetin (2017) found that unlike most studies, SRL scores neither predicted GPAs nor were negatively correlated with them. Notwithstanding this, other researchers who conducted a qualitative study found that university students employed a wide range of SRL strategies that included deep and cognitively rich as well as shallow learning processes (Alvi, Iqbal, & Masood, 2016). Thus, students in learning communities need to be guided as to the best SRL approaches given the context of their studies and the content to be learned. Some researchers even found a gender effect with females scoring higher than males on SRL strategies, except for specific goal selection and planning (Banimufarrej & Alawneh, 2014). In another study, researchers identified four distinct SRL profiles among university students. Students were competent SR learners, cognitive-oriented SR learners, behavioral-oriented SR learners, or minimal SR learners (Ning & Downing, 2015). Ning and Downing (2015) also found that students with a competent SR learner profile had the best motivation, attitude, academic self-concept, and GPA scores compared to students with the three other profiles. This finding is important because it highlights critical components that boost successful SRL implementation and, therefore, must be considered in any SRL intervention protocol, such as the one proposed for consideration here.

### Learning Community Protocol Implementation

Some LC programmes begin with one- or two-day workshops in which strategies, goals, and social responsibility skills are emphasized and taught (Cuevas, 2009; Tsai, 2012). Other programmes include team building, reflective engagement and heuristic planning for integrated assignments (Heurta, 2010). These settings make it natural to implement a simple three-step SRL protocol, as shown in Figure 2.

Process steps include:

- 1. Identify the LC Objectives to be realized (re: course goals manifest and latent)
- 2. Relate the LC Objectives to specific SRL Competencies
- 3. Teach SRL Competencies to LC members in a social context

In such scenarios, university students can become equipped with higher-level skills since they are not naturally in-depth critical thinkers. To a great extent, many have not yet crossed the threshold into abstract thought processes **Conclusion** 

As established earlier, SRL competencies have the potential to be produced in learning community members' academic and social outcomes which are not innate and must therefore be taught. Recall also that learning communities are a natural spin-off from the millennial social networking world; therefore, they will soon become the default posture of contemporary learners and learning environments. This means that as a default learning context, learners will perform optimally to the extent that they are equipped to do so. The integration of SRL academic protocols is one way to ensure that learning communities are successful for all participants.



Figure 1. Four-Phase Cycle Model of Self-regulated Learning



# Figure 2. Three (3) Step SRL academic protocol

Table 1. SRL Skill	s Competencies with	l Learning	Community Outcomes
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SRL OVERARCHING SKILLS	Literature Support for SRL Competencies	Related Learning Communities Outcomes
Cognitive Analysis	Utilize an extensive repertoire of metacognitive, cognitive and behavioural strategies to achieve academic success (Pintrich, Smith, Garcia & McKeachie, 1993). Employ cognitive strategies like elaboration, organization and critical thinking	<ul> <li>Exploration of ideas</li> <li>Critical analysis of course material</li> <li>Thematic analysis, interpretation and extraction</li> <li>Explication of ideas</li> </ul>
Cognitive synthesis	Higher order mental processes (re: abstract reasoning, and reflective cognitions). Employ cognitive strategies like elaboration, organization and critical thinking Make meaningful transdiscipline connections and innovative thinking (Mishra, Fahnoe, Henriksen, 2013)	<ul> <li>Knowledge creation</li> <li>Reflection on learning</li> <li>Knowledge transfer across domains</li> <li>Breaking status quo</li> <li>Integrative project execution</li> <li>Collaboration on authentic tasks (real world problem solving)</li> </ul>
Social-Cognitive Learning	Use strategies for time management, effort regulation help-seeking and peer learning (Pintrich and De Groot, 1990).	<ul> <li>Mutual sharing of knowledge</li> <li>Correct interpretation of ideas</li> <li>Reciprocal learning</li> <li>Constructivist ideation</li> <li>Knowledge co-construction</li> </ul>
Social relations	Interact with the social construals in the learning context given that the origins of SRL is social in nature (re:dyads and groups, Ozdemir, 2011) (Bandura, 1986).	<ul> <li>Social interaction</li> <li>Peer social support</li> <li>Social openness (re: multicultural influences)</li> <li>Power brokerage (re: egalitarian ideals)</li> </ul>
Affect/motivation	Activate and sustain intellectual pursuits, task related behaviours and emotions to reach learning goals (Janagam, Suresh & Nagarathinam cites Zimmerman, 2002). Engage in self-directing and self-evaluation and controlling at different stages in the learning process due mainly to the internal locus of control that such students possess (Shahrara and Soleiman- Nejhas, 2001). Reciprocally regulate cognitive and affective factors of information (Boekaerts, 1999).	<ul> <li>Sustained intellectual discourse (with faculty)</li> <li>Purposiveness</li> <li>Emotional learning/ Reflective thoughtfulness</li> <li>Reflection on learning</li> </ul>
Environmental	Operate, control and manage their environmental resources (Pintrich 1999). Various resource management strategies Shawer (2) cites Zimmerman (2002) as reporting that SR learners as having the ability to monitor current and prior learning to change subsequent learning and self-create new feeling and actions to achieve independent learning	<ul> <li>Resource synthesis and integration</li> <li>Coursework re-construction</li> <li>Interdisciplinary leveraging</li> </ul>

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