

Coding scheme of text message analysis

Teng, D. C. E., Chen, N. S., & Leo, T. (2012). Exploring students' learning experience in an international online research seminar in the Synchronous Cyber Classroom. *Computers & Education*, 58(3), 918-930.

Sender	Type	Characteristics	Characteristics Explanation and example
Instructor	F	Facilitation	The statement for facilitation of the meeting, e.g., "You can ask any question here in the textroom at any point."
	M	Management and organization	The statement for course management, e.g., "Homework due in two weeks."
	I	Direct instruction	The statement/question for instructional purposes, e.g., "Technology as a support tool, and not driving the pedagogy."; "Is there effect of learning style and/or cognitive style? Some learners are natural in constructivist environments, whereas others are not."
	A	Affectional expression	The statement for affective expression, e.g., "Good afternoon", "Got you, hope you could be on time the next time.-:-)".
	R	Responsive	The statement made in response to an earlier message, request, or feedback, e.g., "Yes, I agree with your point that it is one possible scenario."
	T	Technical issues	The statement relevant to technical issues of SCC system, e.g., "Please MUTE your MIC."
	O	Others	Other kinds of statement, e.g., "It seems this is the highest number of participants throughout this semester."
Learner		Question	
	D	In-depth	The question for a deeper clarification of a topic under discussion, e.g., "Since informal learning content could be provided by any body on internet, how and when the teacher evaluate the student's competence which derived from informal learning?"
	B	Broad	The question for a broader connection of concepts, e.g., "Is the networking [of the device] via Wifi or 3G?"
		Statement	
	C	Informative	The statement that provides factual information complementary to the topic under discussion, e.g., "e-Portfolio helps students to learn and record their learning experiences."
	E	Explanatory	The statement that provides factual information with personal opinion to explain the issue under discussion, e.g., "as i understood there is no ubiquitous device exists yet, only combination of device that provides high embeddedness with device that provides high mobility."
	L	Analytical	The statement that provides analytical opinion in relation with the issue under discussion, e.g., "in my opinion if a learner is following a formal learning path and so specific learning objectives have been fixed, probably his/her informal learning adds value and is evaluated within the formal path."
	S	Synthetical	The statement that attempts to synthesize or provide a summary to the issue under discussion, e.g., "I believe, within informal learning activities, the design process of the students at a cognitive and metacognitive level attributes to the development of self-direction and self-reflection habits as part of the design process, not only in term of outcome/product."
	V	Evaluative	The statement that provides evaluative or judgmental opinions of the issue under discussion.
	A	Affectional	The statement for affectional/emotional expression, e.g., "hello everybody", "OK thank you".
	R	Responsive	The statement made in response to an earlier message, request, or feedback, e.g., "Yes, it's exactly what I was thinking about".
	T	Technical	The statement relevant to technical issues of SCC system, e.g., "We have some problems with connection from the university", "There's a strong echo."
	O	Others	Other kinds of statement, which is irrelevant to the topic under discussion, e.g., "I want to ask for leave temporarily because one computer become a mail relay station for it is infected".