

The Invisible Politics of Affect in STEM Learning Contexts

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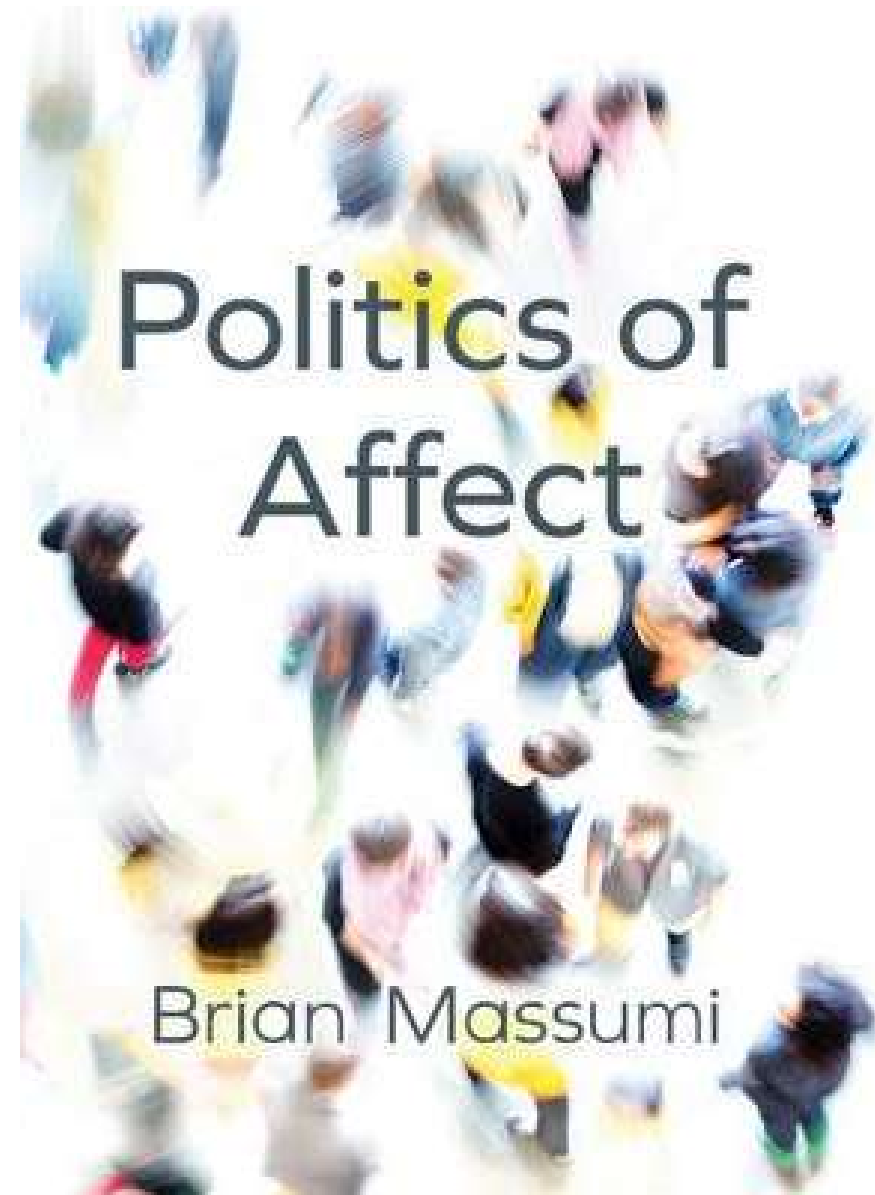
- Representationalism is the “belief in the power of words to represent preexisting things” (Barad, 2017, p. 132).
- “The rhetoric of modernity that aims to persuade you through promises of progress, growth, development, and newness of objects, composed of [. . .] *a field of representation*, which grounds its power in the very idea that signs represent something existing” (Mignolo, 2018, p. 139).
- “Western civilization was built on *entities* and *de-notation*, not in *relations* and *fluidity*. The concept of *representation* is subservient to ontology” (Mignolo, 2018, p. 135).

Affect

- **Affect:** It is a raw and non-representational force that precedes emotion and is not yet structured by language or cognition.
 - **Emotion:** Emotion involves the interpretation and labeling of affective experiences, linking them to specific contexts or events.
 - **Feelings:** Feelings are the conscious awareness and interpretation of the bodily sensations, affective intensities, and emotional responses that we experience.
- affect as *asignifying* (Boldt & Valente 2021, following Deleuze):
“material particles that do not pass through linguistic chains, but rather plug into the body directly through pre-conscious affects, perceptions, desires and emotions. They don't produce signification, they don't speak, but function machinically” (p.11).
- affect is preverbal (van der Kolk, 2014), extra-discursive (Massumi, 2002), or non-narrative (Wetherell, 2013).

The Politics of Affect

- “Affect is now much more important for understanding power, even state power narrowly defined, than concepts like ideology. Direct affect modulation takes the place of old-style ideology” (2015, p. 32)
- “Even in the most controlled political situation, there's a surplus of unacted-out potential that is collectively felt. If cued into, it can remodulate the situation” (2015, p. 41)



Context of Study

- International STEM scholars in United States
- Research Group Meeting (Swales, 2004): space for professionalization; situated learning
- RGM of Electronic Engineering:

Prof: Indian Associate Professor

Rani, Shanthi, Das: doctoral students from India.

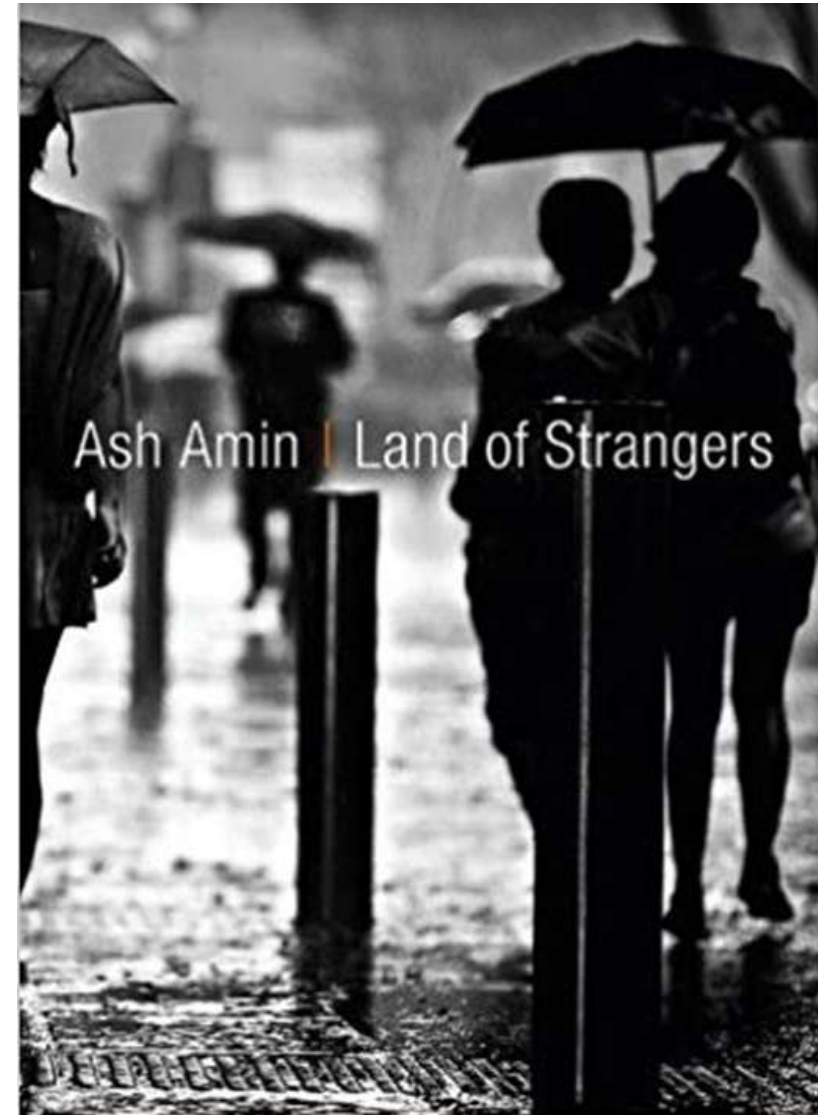
Ram: doctoral student from Sri Lanka

Imran: Iranian postdoctoral scholar

- RQ: “How do international STEM scholars negotiate their language diversity to facilitate their professional activities?”

Visible Ideology of International STEM Interactions

- Ethos of group solidarity for professional apprenticeship and knowledge construction
- Prof: “You challenge me on the concepts, I challenge you on the concepts”
- Ash Amin (2012): Trust “as an always fragile and cultivated art born out of joint work, shared goals and standards, craft practices, and technological alignment, rather than as the gift of particular forms of social disposition” (p.32)
- “Here, strangers fall in behind joint endeavour and common problems, without obligation to recognize each other, disclose themselves or give up their difference and autonomy” (p. 56).





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Transcript for Analysis:

1. Shanti: so +it was taking nearly six seconds+
+looks at Das+
2. +more than six seconds+
+looks at Prof+
3. +to solve the problem (0.5) so=
+looks at Das->
4. Prof: =+no what do you mean by six+
+raises his eyebrows and turns his head to Das looking at him +
5. +seconds
+looks at Shanti->
6. Shanti: six seconds of um
>> looks at Prof->
7. +learning time the- I [got it+
+looks at Prof slightly rotating her hands+
8. Prof: [+since what time+
+shows the first "border" with his L hand looking down+
9. + till what time
+ shows the second border with his R hand looking at Shanti->
10. Shanti: [after- after it
11. Prof: [+till XX and cross B+
+looks at Shanti pointing with his R hand at the board->
12. Shanti: +after it gets a new sample
+turns to the board and makes a circular motion around the part of her drawing+
13. Prof: +right+
+nods looking at +Santi+
14. Shanti: +it has the previous samples+
+points at her drawing looking at Prof+
15. Prof: +right right right
+nods and looks down lowering his head->
16. Shanti: +so once it gets the new sample+
+shifts eye gaze from Das to the board+
17. +It take a metrics and processes=
+leans forward and points with both hands at a different part of her drawing->
18. Prof: +takes six seconds to do that+
+looks at Shanti+
19. Shanti: +six seconds- more than six seconds+
+looks at Prof+
20. +[to solve
+looks at Das-
21. Prof: [+do you think this is this is [acceptable for real time+
+shifts his eye gaze between Das and Rani+
22. Shanti: [+this is not for real time
+looks at Das->
23. Um this is not applicable for real time

24. Das: ° no °
25. Shanti: +so [XX
+looks at Prof->
26. Prof: [+how much time do you think we should+
+looks at Imran+
27. + take
+looks at Shanti smiling->
28. Das: less than one second (1.0)
>>looks at Prof->
29. Prof: +° less than one second ° (1.0)
+points at Das with his L index finger->
30. +° Less than one second (1.5)°
+brings both hands down on his lap with a smacking sound and looks at Rani+
31. +why less than one second?+
+shifts eye gaze between Shanti and Imran (2.0)+
32. Das: +be[cause XXX+
+looks at the board pointing at it with his R hand+
33. Prof: +[NO I'm not (0.5) asking you (1.0) you already told me+
+quickly turns to Das pointing at him with his L hand+
(Das shakes his head and smiles)
34. Prof: +why less than one second +
+shifts eye gaze from Rani to Shanti+
35. Raj: +so we need to take the control action+
+looks at Prof making quick circular movements with his R hand+
36. +and also XXX+
+raises his R hand looking at Prof+
37. + samples XXX (0.5)+
+looks at Prof nodding->
38. Rani: °every second°
39. Prof: every
40. >>leans towards Raj looking at him->
41. Raj: sixty=
42. Rani: =once
43. Raj: XX
44. Prof: +exactly+
+nods looking down+
45. +that's the reason +
+points at Raj with his L hand looking at Imran (1.5)
46. +Yeah and we need+
+looks at Shanti nodding+
47. + to take control XX that's true+
+looks at Imran->
48. +But+ (2.0)
+points at Imran with his L hand+
49. +Fair enough+
+looks at Rani+
50. +yeah you guys got it+
+looks at Imran pointing at him with his L hand+

51. +so good+
+looks at Das smiling+
52. +@ (2.0)->
+looks at Shanti smiling->
53. Shanti: +so um now [what we are doing+
+turns to the board+
54. Prof: [+just like my undergraduate class+
+points at Imran with his L hand and smiles+
55. Shanti: +is using another+
+looks at Imran smiling+
56. Das and Prof: @@@@
57. ((Shanti stops talking and looks at Prof))
58. Prof: +it's wr(h)itten on the @@ hand note @@+
+holds his L palm up and looks at it as if it were a hand note+
59. +(2.0) [how-
+points at the wall with his R hand smiling and looking up->
60. Raj: [If the control
61. Prof: +[why does it come like this XX (1.0)+
+looks at Imran pointing at the wall with his fist+
62. + XX st(h)arts laughing @@+
+looks at Imran bringing his hands apart and then putting them down +
63. +Bec(h)ause it's written @@@+
+looks down at his palm+
64. +Don't look at your hand note+
+points at his palm and looks at Rani smiling widely+
65. +(1.0) yeah I'm not looking+
+looks down at his palm smiling+
66. +Because of this reason+
+points in the air with his R index finger smiling+
67. +Sorry you are not getting interest@
+looks at Shanti smiling->
68. Shanti: if we also (enfold) clearance um cases
>>looks at Prof standing with her back to the board->
69. they have to clear them with one or two cy-cycles
70. Prof: +no but in this case real time processing we need+
+brings his hands apart looking at Shanti->
71. you are getting my point +right+=
+adjusts his eye glasses+
72. Shanti: =+yeah+
+nods looking at Prof+
- ((Prof continues to make his point))