How Does It Feel To Be a Design Thinking Teacher in Changing Times in Nepal?

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Abstract

Design thinking is emerging as a popular student-centric teaching approach in Nepal. However, limited research has been done to understand how teachers feel about using these approaches in their classrooms. In-depth interviews with five design-thinking teachers revealed that cultural context plays a crucial role when new teaching approaches are used. The pedagogical and mindset shift required by teachers when exploring new teaching approaches directly affects their emotions, resulting in varying levels of joy or frustration. Critical reflection helps teachers manage their emotions, which is crucial in navigating challenges and emotional exhaustion.

Introduction

Students of all ages learn from their teachers. They not only learn the academic content, but also model their teacher's behavior and emotions. Teacher and student emotions are intrinsically related, and independent from their instructional behavior (Becker et al., 2014). The role that caregivers and the social environment play in helping young children deal with their emotions is significant (Rybak et al., 2010). During childhood, most students learn how to deal with their emotions by mirroring the behavior of those around them. Research suggests that good teachers are the ones who demonstrate emotional understanding and competency—as opposed to simply reporting on standard measures (Turculeţ, 2015). An analysis of how teachers react to emotional situations in classrooms, and what kinds of emotions they feel in the classroom, can help us design teacher training programs that allow teachers to manage their emotions effectively. This, in turn, results in the students learning how to deal with their own emotions effectively.

Even though teacher emotions form a primary component of student learning, they seem to be overlooked. In the Nepalese context, the primary focus is on teachers' ability to help students learn and their ability to manage classrooms. Understanding teachers' experiences in facilitating student learning is often not prioritized. Yet, the responsibility of introducing 21st-century learning in classrooms is mostly initiated by teachers. Student-centric learning methods are becoming quite popular in Nepal and as student-centric ways of teaching and learning are introduced, the role of teachers and facilitators has become very different from what it used to be. Since student-centric ways of teaching and learning require teachers to adopt a fresh mindset, our research will focus on the various kinds of emotions that teachers experience as they move through newer ways of teaching and learning.

"Design Thinking is generally defined as an analytic and creative process that engages a person in opportunities to experiment, create and prototype models, gather feedback, and redesign" (Razzouk & Shute, 2012, p. 330). Design thinking is a process in which students try to solve problems that affect people. The key element in design thinking is empathy where the students try to see how the problem affects the person on the other end (Flannery, 2018). Design thinking is often also known as a people-oriented way of solving problems that begins with human needs and offers creative solutions (Tu et al., 2018). According to the Institute of Design at Stanford, design thinking is a five-step process: Empathize > Define > Ideate > Prototype > Test (Plattner, 2010).

Role of Teachers in 21st-Century Learning Methods Such as Design Thinking

As we move on to newer ways of teaching and learning, the teacher's role starts to greatly vary from what it is when traditional teaching methods are used. There are major differences between traditional teaching methods and design thinking: in traditional teaching, instruction is the primary source of teaching for educators, whereas in creative thinking teaching courses such as design thinking, educators have to be diverse and flexible, and adopt creative thinking strategies to teach students. Creative thinking teaching also requires teachers to take on the role of mentors or helpers and focus more on their interaction with students (Tu et al., 2018).

Teachers are now facing a time of transition as they adjust to a fast-paced environment and rapidly changing technologies and student needs (Jan, 2017). Implementing creative teaching and learning strategies like design thinking poses various challenges for the teachers as it requires both a pedagogical and mindset shift from traditional ways of teaching and learning (Retna, 2015). Since teachers are the most important stakeholders with the highest responsibility for implementing curricula such as 21st-century learning projects, it becomes crucial to make space for teacher emotions.

Teachers and Teacher Emotions in the Classroom

Knowing about teachers' emotions is crucial to understanding teachers and teaching (Sutton & Wheatley, 2003). Teaching is often a caring profession with a strong moral purpose and a responsibility to young people. Due to the moral obligations associated with teaching, and because of the teachers' responsibility to care for their students, the classroom becomes a space where varied emotions are experienced (Chang, 2020).

Various cognitive reappraisal theories suggest that our emotions are determined by our beliefs and evaluations of the situations that we encounter in life (Chang, 2020). It stands to reason, then, that teacher emotions are based on their evaluations of their experiences and encounters in the classroom. Schutz et al. (2006) contend that, "emotions are socially constructed, personally enacted ways of being that emerge from conscious and/or unconscious judgments regarding perceived successes at attaining goals or maintaining standards or beliefs during transactions as part of social-historical contexts" (p. 344).

In Nepal, design thinking is now widely being adopted as a medium to introduce 21st-century student learning through short- and long-term programs and workshops. The research focuses particularly on the

emotional experiences of design thinking facilitators as they help their students and participants learn in different and more interesting ways.

Methodology

We conducted in-depth interviews and reviewed research reports to assess the experiences of Nepalese design-thinking facilitators. Considering the limited number of design-thinking teachers in Nepal and the wide range of emotions involved in the teaching process, we opted for in-depth interviews to gather the most comprehensive data possible. In this manner, we managed to gain insights directly from the source, as one-on-one interactions increase the likelihood of a respondent opening up (Showkat & Parveen, 2017).

Previous research has indicated the complexity of measuring emotions in design-based learning and showed the importance of in-depth interviews as an important method of measurement (Zhang, 2021). Also, previous research has indicated that emotions are not independent of individuals or their environment, but rather that they are highly guided by the interaction between the individuals and their environment. So, measuring teacher emotions requires an analysis of both the psychological aspect of teacher emotions as well as the contributing role of environment in their emotional experiences (Cross & Hong, 2012). Quantitative data has been criticized for being limited in its scope as it can only measure the frequency and intensity of emotions, rather than adequately representing teacher beliefs (Jiang et al., 2019). So, in order to understand the personal beliefs that teachers had about emotions and their environment's contribution to it, qualitative research methods like in-depth interviews seemed a reliable option for us.

Over a period of four months from May to August 2022, we conducted interviews with five teachers who use design thinking as their teaching methodology. Their experiences were varied. We interviewed teachers from different organizations, genders, and ages to encompass diverse experiences. Table 1 is an anonymized overview of the respondents. The guiding questions for the in-depth interview were prepared to simply explore the basic positive and negative emotions they experienced while teaching. Once the data was collected, transcription and analysis were completed. During the analysis, some common themes were pinpointed.

Table 1

Anonymized Overview of the Respondents

Respondents	Gender	Age	Years of Experience	Background
Respondent 1	Male	30	Higher Education Faculty Member for four years	Marketing and Entrepreneurship
Respondent 2	Male	26	Middle School Teacher for five years	Science and Multimedia

Respondent 3	Female	27	Higher Education Faculty Member for four years	Gender and Equity
Respondent 4	Male	32	Researcher and teacher trainer for six years	Digital Citizenship
Respondent 5	Male	26	Higher Education Faculty Member for four years	Entrepreneurship

Findings and Discussions

Teaching and Learning Empathy Is Challenging

Empathy is the first and primary step in the design thinking process. Nepalese students seem to experience some difficulty in fully understanding the nuances of empathy. Teachers reported challenges in helping students get through the first step in itself. Instead of deeply empathizing with the end user, students tend to consider the problems superficially and recommend solutions, instead of really getting into the root cause of problems. Great effort is therefore made to help students understand the notion of empathy. Respondent 1 shared,

> *I think empathizing is the part I least enjoy because of the frustration associated with it. The students need to develop any of the solutions keeping the end user in mind and they find it challenging to do so. Students sometimes have the tendency to settle quite early into the problems confusing the symptoms of the problems with the problems themselves. They don't explore the problems further. Guiding the students through the process of empathizing can be frustrating and challenging for one as a teacher.*

Referring to Singapore, Retna (2015) argues that in social cultures where academic achievement and examination success is highly valued, implementing design thinking comes across as difficult for teachers, as it first requires a shifting of mindsets. The results of the Nepalese study echoed this notion. Students rushed to find solutions, instead of taking their time to understand the problems from the end-user perspective. Though 21st-century learning methods are being implemented at a rapid rate, Nepal is still in a transition phase of education wherein students have been conditioned by traditional ways of teaching and learning. Respondent 3 shared,

> *What we have noticed over many cycles of facilitating, mentoring, and coaching students is that, in Nepal, students really wait for instructions from the instructor. They wait for the green [light] and some form of validation from the instructors before taking decisions about whether their decision is okay or not. This never really allows the instructors to take on the role of facilitator or supporter but they have to keep on juggling between the hat of facilitator and teacher.*

Shifting to newer ways of learning requires great effort on behalf of teachers. While some respondents found the planning component to be more intensive than the execution of the methodology in the classroom, others found it to be the opposite. However, all the respondents were in agreement that older

teaching methods were so entrenched in the classroom and that students were so accustomed to them, that despite great effort to effect change, teachers might not always succeed due to factors beyond their control. Numerous factors contribute to students' success, including personal events, interaction with peers, parents and teachers, and the larger systems that surround them, such as school districts, neighborhoods, the local economy, political policy, and multicultural relations (Bertolini et al., 2012).

Teachers' Emotions Are Directly Proportional to Students' Outcomes

Teachers' emotions were largely based on how well students performed. The teachers experienced pleasant emotions and considered themselves successful when students were able to achieve the desired outcomes. On the contrary, poor performance from students made the teachers feel that they were not achieving success. Students' creativity and their ability to come up with unique ideas were something that gave educators a lot of joy. For instance, respondent 5 expressed that, *"the feeling of elation comes when I ask students to work on design thinking activities and they understand it exactly, and come up with unique ideas from a fresher's perspective."* Prosen et al. (2011) also argued that teachers' levels of joy are largely contingent on the quality of their students' performance in the classroom.

On the other hand, when the facilitators feel like their students are not engaged, that can also create negative feelings for the facilitator. For instance, respondent 2 shared,

> *...there will be some students who are very resistant to ideas at the beginning and even til the end. While working with these students, I put in a little more effort but when the effort is still ignored, a feeling of anger mixed with a little sadness is triggered as an immediate response. I question myself like why are they not paying attention to it? This also develops a feeling of fear as I worry if they do not like it at all and what if they fail to learn anything from the session.*

They further added that when participants in his design thinking workshop fail to engage with the content designed by him, he questions his own abilities. For instance, the facilitator shared,

> *If I could not get the participants to work during my design thinking classes, I think that I am doing something wrong. Of course, there is a chance that the participant was there due to some external pressure or force. But if the participant is not enjoying the session or not engaging in it, I also consider it to be my responsibility.*

While it is natural to experience pleasant emotions when your classroom goals and objectives are met, and to feel negative emotions when they are not met, it might not be healthy to question one's own abilities purely based on student success rates. It has been suggested that teachers' emotions are essential in determining students' achievements (Frenzel et al., 2021). When teachers do not believe in their abilities to manage the classroom, they find it extremely difficult to persist during more difficult times. This eventually makes it all the more challenging for them to fulfil their initial goals (Brouwers & Tomic, 2000).

Even as 21st-century learning projects are prioritized, it is important for teachers to realize that there are factors outside of the teacher's control that affect student learning and motivation. Teachers are important resources that determine student success, yet when given the significant responsibility of changing students' perspectives, they too can feel overwhelmed.

Teacher-Student Relationships Contribute to Student Outcomes

In Nepal, teachers are usually revered as "Gurus" and this perspective of considering them as experts and elders puts students in a position of deference (Sharma, 2022; Widmann & K.C., 2013). This sort of positioning creates an implicit barrier between teachers and students, which often leads students to feel intimidated and unwilling to authentically express themselves in the classroom. This can result in teacher-student relationships that lack warmth and communion in the classroom.

Yet, in the experiences of all the design thinking facilitators, their relationship with their students was quite fluid and friendly. The lack of hierarchy between the teachers and students in design-thinking classrooms was seen as a welcome change by the students and helped the teacher-student relationship flourish. The more teachers can demonstrate warmth and agency to students, the more students can experience joy in the classroom (Mainhard et al., 2018). The quality of the relationship between teachers and students also has an impact on teachers'' emotional experiences during instruction. Closely connected relationships between teachers and students can help teachers experience more joy and less anxiety and anger in the classroom (Hagenauer et al., 2015).

Respondents shared that the design thinking approach helps strengthen the teacher-student relationship, with the teachers feeling more affection towards students. Respondent 4 mentioned,

> *I have grown up seeing that students feel a lot of contempt and anger towards their students in general classrooms. This doesn't necessarily exist in design-thinking classrooms. In a general class, teachers also experience a lot of anger towards students because the students are not listening, and it is difficult to grab their attention. …. The student assessment that happens in general classrooms can create a lot of animosities.*

Similarly, respondent 1 shared that*, "there is also clear sharing of emotions that happens between teachers and students in design thinking classroom which makes the bond stronger."*

Findings indicate that a positive teacher-student relationship can increase students' confidence, motivation, and engagement in the classroom (Coristine et al., 2022). A healthy relationship between teacher and students is helpful for the two primary stakeholders, and 21st-century learning projects like design thinking help build such a relationship. A teacher's less commanding presence in design thinking classes, along with the close guidance they provide and the low student-teacher ratio, helps foster a healthy teacher-student relationship. This system could be applied to other classrooms as well.

The Importance of Considering Emotions

One of the common themes that was found among all the teachers using the design thinking approach was that they all agreed on the fact that emotions are perceived and inadvertently shared in the classroom. Two of the respondents mentioned that the energy of the students permeates the entire classroom. So, if the students' energy is high and they are enthusiastic, the teachers and facilitators also participate with the same level of energy and enthusiasm in the classroom. However, if the students are low in energy and feel like unwilling participants in the classroom, then the same low level of energy affects the teachers. Previous research also indicated that one of the ways a teacher's emotions can affect the

classroom is through the phenomenon of emotional contagion where teachers and students mirror each other's emotional states (Frenzel et al., 2021).

Yet, the design thinking teachers also shared how it is important to find ways to use this emotional transferability in a way that benefits the learning environment of the classroom. For instance, respondent 5 shared,

> *When it comes to reciprocation of emotions, I think it is a lot about doing what I can as far as I can so that students can absorb my emotions and reciprocate my energy. So, let us say that in some parts of the process, the participants need to be outlandish, I help them be outlandish by being outlandish myself first. If they need to be focused, I will model the same behavior. The design thinking process sometimes requires participants to be very focused and sometimes it requires them to be very outlandish and whatever the participants need to do, I try to help them do that by first doing it myself.*

The reciprocation of emotions in this case is used by the facilitators to their advantage.

Similarly, respondent 3 also shared how she uses the technique of immediate improvisation to deal with emotional absorption in the classroom. She shared,

> *I think what helps is the balance between planning and improvisation. As a facilitator, you need to be able to make those quick decisions. So, let's say your students are feeling low on energy and you have planned that you will teach students certain tools, then, maybe modifying the lesson plan and directing the student energy more on the reflection part that day shall be helpful. But if the students are in a very good place emotionally, maybe introducing a new tool for students might be helpful. So, depending on the student's feelings, making modifications to what will the students be taught is also helpful.*

Adaptability and reflecting on emotions are crucial to help guide the transference of those classroom emotions toward something productive.

Teachers Are Either Frustrated or Joyful

In the interviews we conducted, two of the common emotions were joy and frustration. Pleasant emotions like satisfaction and/or joy were related to student learning. When the teachers felt like their students were learning something or when the teachers felt like they were contributing to their student learning in significant ways, the process felt more joyful and satisfactory to them. Respondent 1 shared,

> *Satisfaction is usually felt towards the end of the session by both the teachers and students. As a teacher, there is a feeling that the facilitation one is doing is contributing to students' growth and students' change in mindset in some way or the other. This makes me feel fulfilled and satisfied in the job of facilitation I am doing.*

Respondent 5 shared,

> *When you see your students growing and when you see that your students are stepping out of their comfort zone, you feel happy. Learning happens when students get outside of their comfort zone. When I see participants doing that, I enjoy it very much.*

Respondent 3 shared,

> *When the students and their teams are working really well, there is also a sense of satisfaction you feel. So, there are a lot of happy and content moments. Especially at the end when things work out, and when students share their experiences, it feels good. At the moment, it often becomes difficult to see what you have learnt but after the experience is over when the student tells me that they have learnt so and so, it is very exciting. So, for me, this is thrilling.*

Teachers get satisfaction from knowing that their students have learned something. Teachers usually experience pride when their students perform well and this success is partly attributable to teachers' efforts (Burić et al., 2017). While the teachers in our research did not necessarily refer to it as pride, it could be observed that they did feel contentment, satisfaction, or joy when their students performed well and they considered themselves at least partly responsible for it. This also aligns with the Reciprocal Model of Emotions, which states that teachers' appraisal of their goal achievement determines what emotions they shall experience. When teachers determine that their teaching goals are fulfilled, they experience pleasant and positive emotions. If, however, teachers feel that they have not been successful in achieving their goals, they experience unpleasant emotions (Frenzel, 2014).

Apart from the pleasant emotions and experiences in design-thinking classrooms, there are also unpleasant emotions and experiences that occur. For instance, frustration was one of the most frequently reported emotions among the teachers we interviewed.

Frustration in the class was usually caused by a sense of ambiguity, a lack of clarity, and students' unwillingness to step outside of their comfort zone and think creatively. Given that design thinking is an iterative process, it requires continuous effort from the students to improvise and to learn. Furthermore, since design thinking is a new method of teaching and learning, it requires students to adapt to new things and be willing to embrace change. These are not insignificant responsibilities for the students, and when they are not ready and willing to put in the required effort, a feeling of frustration can spread through the classroom.

Respondent 4 shared,

> *There is also a certain amount of frustration with students as they find really hard to adopt this idea where they have to focus on human-centric design. As much as human-centred design is focused on, students eventually make it problem centred or project their ideas onto the problem than taking the perspective of the people they are designing for.*

He further added, "Since students are not used to submitting multiple drafts, iteration is also something they find difficult. Since iteration feels naturally difficult, that too creates a lot of frustration within the class."

In design thinking classes, students might begin with a high level of interest, but striving for continuous improvement might eventually decrease their interest level, and they might even start questioning their self-efficacy (Vongkulluksn et al., 2018). In fact, students can also experience ambiguity and confusion about how to move forward as they progress in their projects.

While confusion and ambiguity can create rampant frustration in the classroom, positive experiences and exposure to design thinking classes have been seen as helpful in preparing design thinking teachers to deal with unpleasant emotions. The more the design thinking teachers gain experience in facilitating classes, the more they realize that unpleasant classroom emotions are just as natural as pleasant ones, and it is vital that they are given the proper tools to cope with them.

For instance, Respondent 1 shared,

> *If you go to places where design thinking was originally initiated too, even in those places, it was clear that design thinking will be ambiguous and unclear in the beginning phase. The fact that you are accepting that emotion of confusion and ambiguity helps self-regulate the emotion. You can better prepare yourself to deal with those emotions once you know that those emotions will most likely occur. Once you know that emotions like confusion, ambiguity, and frustration will be there, you can prepare yourself to deal with those emotions accordingly. Because you already know that I will be feeling frustrated, you are better able to accept it and prepare yourself for it too. Because if you know what things are coming ahead, and if you know that it is frustration itself, then you are in a better position to face it. After repeated experiences with design thinking, the feeling now tends to remain that during the process of design thinking, frustration is most likely bound to happen during these phases so you would rather be ready to accept it.*

Apart from just considering these emotions as natural, the teachers also understood the benefit of these unpleasant emotions. For instance, respondent 3 stated,

> *Even in the moments of uncertainty, though there is fear and anxiety, there are also pleasant moments. So, in the design thinking process, there is something called the 'Aha!' and 'Oh No!' moments. In moments of confusion, when the students have certain epiphanies, it becomes exciting again. So, even during the process of uncertainty, there are pleasant and unpleasant experiences.*

Likewise, respondent 1 shared,

> *Frustration is a good frustration in a way that it will help the students push themselves further and the end result of that frustration will also be meaningful to the students. I can notice a positive impact of frustration in various teams because the outcome of the frustration in most cases leads to a sense of accomplishment. So, the outcome of the frustration also helps teachers accept frustration and deal with it.*

With more exposure to emotional experiences in the classroom, the design-thinking teachers seemed to have understood the functionality of the emotions, instead of merely being affected by them. Similarly, the teachers who had the space and freedom to reflect honestly on their emotions and share them with their co-teachers, seemed to feel more supported and understood with regard to their unpleasant emotions. They were therefore better equipped to contend with any adverse sentiments. The sharing of experiences among the facilitators might also be a crucial and helpful way to help design thinking facilitators navigate the complexities of in-class emotions.

Conclusion

There are three main insights from this study. First, when moving toward newer ways of teaching and learning such as design thinking, a shift in mindset is required, along with a shift in curricula and pedagogy. The cultural context of the educational system also needs to be considered when implementing new pedagogies like design thinking. As newer ways of learning are introduced, it is first important to assess the mindset of various stakeholders including the teacher's, the student's, and even institutional patterns, before implementing these pedagogies. Otherwise, these pedagogies risk being implemented for mere formality, rather than to meet a specific objective.

Second, 21st-century learning projects like design thinking are iterative processes based on the principle of continuous improvement. Continuous improvement does not only apply to students, but also to teachers. These newer ways of learning are exciting as well as challenging for both of them. Hence, giving both students and teachers a safe space to make mistakes and to learn will benefit them more than the mere expectation to achieve success.

Third, teachers themselves must also practice an inward tolerance in challenging moments, rather than wallowing in self-doubt. When teachers are as understanding of themselves as they are of others, they experience the feeling of satisfaction, personal accomplishment, and are motivating to their students. The opposite occurs when they are hard on themselves and do not leave room for their own emotional responses.

The research also provided two helpful ways for teachers to deal with their unpleasant emotional experiences. First, helping teachers share their emotions with their colleagues in their institution is crucial. The more they hear and learn about other teachers' emotional experiences, the more capable they feel at handling those experiences as they slowly start accepting those emotions as normal. Such collaborative reflections can help teachers assess emotional experiences that arise in the classroom and provide them with better ways to deal with such emotional experiences while maintaining their professionalism.

Second, the relationship between teachers and students seems to be a very important source of teacher and student well-being in the classroom. Moreover, 21st-century learning projects like design thinking appear to dispense with classroom hierarchies and help the teacher-student relationship flourish. High-quality teacher-student relationships are known to lower the rates of emotional exhaustion in teachers and enhance their quality of enthusiasm for their work. Teachers need to be more mindful regarding the tendency to absorb their students' emotions; and the same goes for the students. While teacher-student emotional exchange in the classroom is not a new phenomenon, how teachers use the power of adaptability and spontaneity to deal with this emotional exchange is how they can find a way for everyone to achieve success.

References

Becker, E. S., Goetz, T., Morger, V., & Ranellucci, J. (2014). The importance of teachers' emotions and instructional behaviour for their students' emotions – An experience sampling analysis. *Teaching and Teacher Education*, 43, 15–26. https://doi.org/10.1016/j.tate.2014.05.002

Bertolini, K., Stremmel, A., & Thorngren, J. (2012). *Human Sciences Department of Teaching, Learning and Leadership* (ED568687). ERIC. https://files.eric.ed.gov/fulltext/ED568687.pdf

Brouwers, A., & Tomic, W. (2000). A longitudinal study of teacher burnout and perceived self-efficacy in classroom management. *Teaching and Teacher Education*, *16*(2), 239–253. https://doi.org/10.1016/s0742-051x(99)00057-8

Burić, I., Slišković, A., & Macuka, I. (2017). A mixed-method approach to the assessment of teachers' emotions: Development and validation of the Teacher Emotion Questionnaire. *Educational Psychology*, *38*(3), 325–349. https://doi.org/10.1080/01443410.2017.1382682

Chang, M.-L. (2020). Emotion display rules, emotion regulation, and teacher burnout. *Frontiers in Education*, *5*(90). https://doi.org/10.3389/feduc.2020.00090

Coristine, S., Russo, S., Reilly, F., Beninato, P., & Rivolta, G. (2022). The importance of teacher-student relationships. In Dr C. Vanner (Ed.), *Classroom practice in 2022*. Press Books. https://ecampusontario.pressbooks.pub/educ5202/chapter/the-importance-of-student-teacher-relationships/

Cross, D. I., & Hong, J. Y. (2012). An ecological examination of teachers' emotions in the school context. *Teaching and Teacher Education*, *28*(7), 957–967. https://doi.org/10.1016/j.tate.2012.05.001

Flannery, M. E. (2018, April 19). *Design thinking: Connecting students to the larger world | NEA*. National Education Association. https://www.nea.org/advocating-for-change/new-from-nea/design-thinking-connecting-students-larger-world

Frenzel, A. C. (2014). Teacher emotions. In R. Pekrun & L. Linnenbrink-Garcia (Eds.), *International handbook of emotions in education* (pp. 494–519). Routledge. https://www.researchgate.net/publication/272504523_Frenzel_A_C_2014_Teacher_emotions_In_E_A_Linnenbrink-Garcia_R_Pekrun_Eds_International_Handbook_of_Emotions_in_Education_pp_494-519_New_York_Routledge

Frenzel, A. C., Daniels, L., & Burić, I. (2021). Teacher emotions in the classroom and their implications for students. *Educational Psychologist*, *56*(4), 250–264. https://doi.org/10.1080/00461520.2021.1985501

Hagenauer, G., Hascher, T., & Volet, S. E. (2015). Teacher emotions in the classroom: Associations with students' engagement, classroom discipline and the interpersonal teacher-student relationship. *European Journal of Psychology of Education*, *30*(4), 385–403. https://doi.org/10.1007/s10212-015-0250-0

Jan, H. (2017). Teacher of 21st century: Characteristics and development. *Research on Humanities and Social Sciences*, *7*(9). https://core.ac.uk/download/pdf/234675955.pdf

Jiang, J., Vauras, M., Volet, S., & Salo, A.-E. (2019). Teacher beliefs and emotion expression in light of support for student psychological needs: A qualitative study. *Education Sciences*, *9*(2), 68. https://doi.org/10.3390/educsci9020068

Mainhard, T., Oudman, S., Hornstra, L., Bosker, R. J., & Goetz, T. (2018). Student emotions in class: The relative importance of teachers and their interpersonal relations with students. *Learning and Instruction*, *53*, 109–119. https://doi.org/10.1016/j.learninstruc.2017.07.01

Plattner, H. (2010). *An introduction to design thinking PROCESS GUIDE*. Institute of Design at Stanford. https://web.stanford.edu/~mshanks/MichaelShanks/files/509554.pdf

Prosen, S., Vitulić, H. S., & Škraban, O. P. (2011). Teachers' emotional expression in interaction with students of different ages. *Center for Educational Policy Studies Journal*, *1*(3), 141–157. https://doi.org/10.26529/cepsj.419

Razzouk, R., & Shute, V. (2012). What is design thinking and why is it important? *Review of Educational Research*, *82*(3), 330–348. https://doi.org/10.3102/0034654312457429

Retna, K. S. (2015). Thinking about "design thinking": A study of teacher experiences. *Asia Pacific Journal of Education*, *36*(1), 5–19. https://doi.org/10.1080/02188791.2015.1005049

Rybak, C., Maharjan, C. L., & Adhikari, A. (2010). Emotional intelligence in the educational and therapeutic community in Nepal. *Journal of Education and Research*, 2, 35–43. https://doi.org/10.3126/jer.v2i0.7621

Schutz, P. A., Hong, J. Y., Cross, D. I., & Osbon, J. N. (2006). Reflections on investigating emotion in educational activity settings. *Educational Psychology Review*, *18*(4), 343–360. https://doi.org/10.1007/s10648-006-9030-3

Shiv Kumar Sharma. (2022, February 19). Education systems in Nepal and USA: Experiences as a teacher. *OnlineKhabar*. https://english.onlinekhabar.com/education-system-nepal-us-teacher.html

Showkat, N., & Parveen, H. (2017). In-depth interview. In *Communications Research* (pp. 1–10). Pathsala. https://www.researchgate.net/publication/319162160_In-depth_Interview

Sutton, R. E., & Wheatley, K. F. (2003). Teachers' emotions and teaching: A review of the literature and directions for future research. *Educational Psychology Review*, *15*(4), 327–358. https://www.jstor.org/stable/2336154

Tu, J.-C., Liu, L.-X., & Wu, K.-Y. (2018). Study on the learning effectiveness of Stanford design thinking in integrated design education. *Sustainability*, *10*(8), 2649. https://doi.org/10.3390/su10082649

Turculeţ, A. (2015). Teachers for the 21st century. Will emotional intelligence make the difference? *Procedia - Social and Behavioral Sciences*, *180*, 990–995. https://doi.org/10.1016/j.sbspro.2015.02.188

Vongkulluksn, V. W., Matewos, A. M., Sinatra, G. M., & Marsh, J. A. (2018). Motivational factors in makerspaces: A mixed methods study of elementary school students' situational interest, self-efficacy, and achievement emotions. *International Journal of STEM Education*, *5*(1). https://doi.org/10.1186/s40594-018-0129-0

Widmann, J., & K.C., B. (2013, June). *Active learning in Nepal: A case study of effectiveness, cultural considerations and student attitudes at a South Asian university*. 2013 ASEE Annual Conference & Exposition, Atlanta. https://doi.org/10.18260/1-2--19151

Zhang, F. (2021). *Emotions in design-based learning* [PhD Thesis]. https://research.tue.nl/en/publications/emotions-in-design-based-learning

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