

TPACK for soft skills in Moroccan open-access higher education institutions: The mediating role of care

Oussama Moussaoui ^{1*}, Najib Bouhout ², and Karim Es-soufi ³

¹ Faculty of Legal Studies, USMBA, Fes, Morocco

² Faculty of Letters and Human Sciences Dhar El Mahraz, USMBA, Fes, Morocco

³ Faculty of Letters and Human Sciences, UM5, Rabat, Morocco

oussama.moussaoui2@usmba.ac.ma

* Corresponding author

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Abstract

The present study explores the relationship between Technological Pedagogical and Content Knowledge (TPACK), care, and soft skills in 307 EFL students from three Moroccan HE institutions. The findings indicate that TPACK and care are crucial factors in developing soft skills in Higher Education and care mediates fully the relationship between TPACK and soft skills. The study highlights the need for a student-centered approach to teaching and integrating TPACK and care in teacher education programs. The implications for educational programs and policies are discussed.

Keywords: artificial intelligence, soft skills, employability, higher education, student perceptions

1. Introduction

One of the most important topics in higher education is the development of student skills, teachers' technological competence, and the establishment of caring student-teacher relationships (Devlin & Samarawickrema, 2010; Larsen, 2015). Care is a critical issue for scholars interested in student-teacher relationships and who advocate for placing these relationships at the core of pedagogy. Doing so facilitates both the academic and personal growth of students in higher education, as well as their social and economic growth in the labor market.

The role of care in higher education has always been complex, as teachers need to maintain a high level of professionalism together with good relationships with students (Walker & Gleaves, 2016). Recently, educators have become more interested in the impact of care on students' skills, particularly in an international context where soft skills such as communication, critical thinking, empathy, and pro-social behavior are highly valued. Research has shown that a positive student-teacher relationship can have a significant impact on the hard and soft skills that students develop, which are critical for success in today's job market (Anderson et al., 2020). As a result, the professional standards of education systems worldwide now emphasize the importance of care (Walker & Gleaves, 2016).

Despite the crucial significance of care, technology, and soft skills in education, there has been little systematic research conducted to examine their interrelationship. For instance, the importance of technological competence in establishing caring student-teacher relationships has only recently been recognized. Robinson et al. (2020) discovered that an instructor's experience and readiness for online teaching can help create a climate of care, which was an unexpected finding. However, to date, no theory has been presented to explain how teachers' competence translates into caring relationships. Furthermore, care scholars acknowledge the centrality of care in students' academic knowledge and skills. Nodding (2012), for instance, explicitly links caring teachers to students' satisfaction and the development of 21st-century skills such as cooperation and teamwork, but there is a noticeable lack of quantitative studies that support this claim.

To address this gap, the present work aims to investigate the relationship between teachers' competence, care, soft skills, and satisfaction by drawing on TPACK theory and relation care theory. This research builds on previous studies that have shown the importance of information and communication technology in education, as well as the significance of student-teacher relationships for effective teaching and learning. The research takes as its starting point the view that a caring student-teacher relationship plays a vital role in mediating the relationship between teachers' knowledge and students' learning of soft skills. In addition, TPACK theory is used to explore the impact of different forms of teachers' knowledge on students' soft skills.

1.1. Caring as an Ethical Practice in Teaching

According to Walker and Gleaves (2016), caring teachers prioritize their relationships with students as a crucial factor for effective learning. Many researchers have taken a relational

approach to studying care in Higher Education (Larsen, 2015). This approach considers the significance of psycho-social and socio-cultural settings in framing the learning environment. Notably, studies have demonstrated that a caring student-teacher relationship has a positive impact on student motivation, perception of teacher credibility, and attitude toward the course taught (Teven, 2007). Similarly, Santini et al. (2017) highlight the centrality of care in students' satisfaction with professors, courses, and institutions. Tang et al. (2020) also highlight the relationship between care and positive outcomes, suggesting that a caring student-teacher relationship triggers an “emotional-motivational drive” for knowledge co-construction and leads to closing the gap in the Zone of Proximal Development. Overall, a pedagogy of care aligns with the ethics of care and the socio-cultural theory of learning, and caring teachers' positive attitudes toward their students create a constructive and engaging learning environment.

1.2. Technological Pedagogical and Content Knowledge

Teachers' TPACK is crucial for effective teaching and involves three forms of knowledge: content, pedagogy, and technology and their interaction (Schmidt et al., 2009).

- Content knowledge: Refers to understanding the subject matter and the topics being taught. It is the knowledge of ‘what’ to teach.
- Pedagogical knowledge: Represents teachers' knowledge of the cognitive, social, psychological, and developmental processes of learning that inform the learning situation.
- Technological knowledge: Refers to ICT skills and their ability to use ICT for learning.

In addition to the above central domains, their interaction gives rise to another set of domains, defined as follows:

- Technological content knowledge: This refers to teachers' ability to deliver or represent content through technology.
- Technological pedagogical knowledge: Refers to teachers' knowledge of how to use technology to diversify their teaching methods and cater to different learning styles.
- Pedagogical content knowledge: Refers to teachers' ability to tailor their methods according to the nature of the subject matter and topics.
- Teachers' TPACK is the intersection of knowledge domains, representing their ability to use technology for pedagogical practices.

Research on Technological Pedagogical Content Knowledge (TPACK) has mainly focused on its antecedents and outcomes for teachers and their practices. Shafie, Majid, and Ismail (2019) discovered a positive correlation between teachers' TPACK and their ability to teach 21st-century skills. They found that teachers cannot effectively teach 21st skills, necessary in the workplace if they cannot use technology effectively in the classroom. Similarly, Wang (2022) found that teachers are less confident in their TPACK for teaching higher-order skills, but experienced teachers show a relatively higher level of confidence compared to novice teachers. Other studies have established a positive link between teachers' TPACK and readiness for online teaching (Rafiq et al., 2020).

However, the effect of teachers' technological, pedagogical, and content knowledge on students' learning is relatively scarce and mostly implicit in teachers' preoccupation with the affordances of technology and its use in boosting teaching excellence and consequently learners' knowledge and skills (Lai et al., 2015).

1.3. Soft Skills Teaching

According to Cinque (2016), soft skills are a blend of cognitive and metacognitive, interpersonal, and practical abilities that empower individuals to tackle novel challenges in their professional and social lives. Feraco et al. (2022) suggest that soft skills are personal traits that enable people to achieve their goals through positive regulation of emotions, behavior, and cognition.

There is a consensus on the importance of soft skills and the need to teach them, but little is known about how teachers' practices affect the development of students' soft skills (Cinque, 2016). Soft-skills courses and integrative courses seem to benefit students' development of soft skills at the course level, but neither the number of soft-skills courses nor the teaching practices that best promote soft skills have reached a consensus.

Moreover, faculty members use different teaching methods to teach soft skills, ranging from readings, lectures, writing assignments, discussions, student presentations, and group projects. Studies have shown that teaching practices aligned with constructivist paradigms and pedagogy blending theory and practice better predict students' learning of soft skills (de Freitas & Almendra, 2021), but there is also a growing awareness of the need for holistic pedagogy and the role of digital technology in developing students' soft skills (Cinque, 2016). Therefore, it is essential to explore how technology is changing the teaching and learning of soft skills.

2. Research Methodology

2.1. Data Collection and Participants

The sample for the present study consisted of 226 students in the departments of English studies in three Moroccan Higher Education institutions. More than half of the students were female students (N= 119, 52.65%), and male students constituted 45.13% of the total number (N = 102). No gender data was reported by 5 students (2.21). The gender composition of the sample mirrors the data reported at the national level by the Ministry of Higher Education (<https://www.enssup.gov.ma/en/statistiques>) for open-access Higher Education institutions and also reflects the gender composition in the two institutions from where the data was collected. By the number of years, 99 students were in their second year (43.80%), 87 students in their third year (38.50%), 30 in their fourth year (13.27%), and 7 in their fifth year (3.10%). Data were missing for 3 students.

All the constructs in the theoretical model were adapted from previously validated surveys. The TPACK scales were taken from Tseng (2016). Tseng's TPACK was designed for EFL students and contains five domains (CK, PK, TK, CPK, PTK, CTK, and TPCK). However, Tseng identified only five factors, (TK, TPK, and PCK) and two mixed factors (PK/CK and TCK/TPACK), and suggests that students were unable to identify some of the constructs given their level of English. The present work included all the intermediate domains of TCK, TPK, and CPK as predictors of TPACK following Schmidt et al.'s transformative model of TPACK (2009). Soft skills were adapted from the Goldsmiths soft skills inventory (Chamorro-Premuzic et al., 2010) and measured formatively. The indicators for Soft skills were reviewed by two experts for content validity and to ensure that the items adequately exhaust the construct's domain (Hair et al., 2017). Both experts suggested the elimination of some items but they both converged on the elimination of two items (insight, level of maturity, and soft skills). Convergent validity of soft skills was validated against scores from responses to a single item "To what extent do you believe the university has developed your soft skills?" in the original survey. The correlation between the single item and the variable was close to 0.7. Therefore, it was determined that the variable had good convergent validity. The variable *Care* was adapted from 'Caring Student-Teacher Relationship (CSTR) survey (Whitehead et al. 2021). The latent variable measures students' perceived teacher caring support and attunement. The demographic variables of gender (male/female and years at the university (1, 2, 3, 4, 5, or more) were used as control variables.

Partial Least Square Structural Equation Modeling (PLS-SEM) was used to evaluate the hypothesized model through the software WarpPLS 8.0. WarpPLS provides many model fit and quality indices, in addition to output that enables the justification of the use of PLS-SEM (tests for multivariate normality for the latent variables). In addition, rather than using composite scores for the latent variables in the model, WarpPLS enables running factor-based PLS-SEM that takes measurement errors into account and brings the factorial composition of the variables closer to a variance-based SEM (Kock, 2019). In the present work, therefore, a factor-analysis model was run using robust path analysis. Robust path analysis allows the estimation of the direct and mediating effects simultaneously and P values for mediating effects through resampling. Another reason is that robust path analysis does not assume a parametric distribution of the data, an assumption that was supported by the output for normality distribution from the software.

2.2. Validity and Reliability

Validation of the measurement model is a necessary step in PLS-SEM. For convergent validity, confirmatory factor analysis was conducted and items with a loading less than 0.6 were removed from the final model. Table 1 presents the loading and cross-loadings obtained of the remaining items. As can be seen, all the loadings ranged between 0.689 and 0.965, which suggests a good to very good convergent validity of the measurement model. The validity of soft skills, measured formatively, is established through the significance of item weights. As can be seen in Table 2, the weights are all significant at $P < 0.05$. and the collinearity between the items is less than 2.5. Together, these two measures established the convergent validity of the Factor for soft skills. The item SS1 is retained even though it has a VIF value that is a little higher than the 2.5 threshold recommended by Kock (2019). Following Hair et al. (2017), an item can be retained based on its absolute necessity given a high and significant loading. Convergent validity is also established in the context of this study through the average variance explained where the items for each construct explain no less than 50% of the variance in that construct.

Two criteria were used to establish discriminant validity. The first is the Heterotrait-Monotrait ratio. As can be seen in Table 3, all the HTMT ratios (above-diagonal) are below 0.85. The square root of the average variances extracted (Diagonal) for each construct is greater than its correlations with any other variable (below diagonal). Additional coefficients are given in Table 4. Good reliability was obtained for all the constructs in this study as Cronbach's alpha values and composite reliability values were all greater than or close to 0.8.

Table 1. Combined loading and cross-loading

	TPK	TCK	PCK	TPCKS	CSTR	SOFT
TPK2	(0.836)	0.441	0.360	0.517	0.463	0.410
TPK3	(0.831)	0.504	0.406	0.484	0.507	0.390
TPK4	(0.804)	0.470	0.401	0.451	0.453	0.433
TCK1	0.495	(0.910)	0.449	0.438	0.375	0.347
TCK2	0.431	(0.725)	0.389	0.383	0.287	0.254
TCK3	0.472	(0.879)	0.413	0.385	0.401	0.335
TCK4	0.456	(0.791)	0.432	0.397	0.313	0.298
PCK4	0.370	0.486	(0.692)	0.359	0.333	0.240
PCK5	0.400	0.368	(0.784)	0.350	0.411	0.295
TPCK4	0.511	0.448	0.399	(0.805)	0.449	0.355
TPCK5	0.484	0.388	0.334	(0.814)	0.500	0.411
CSTR3	0.389	0.348	0.454	0.429	(0.750)	0.441
CSTR6	0.386	0.337	0.437	0.363	(0.724)	0.324
CSTR7	0.387	0.269	0.325	0.359	(0.706)	0.494
CSTR8	0.434	0.308	0.219	0.379	(0.704)	0.582
CSTR9	0.508	0.312	0.323	0.473	(0.803)	0.536
CSTR10	0.421	0.305	0.253	0.456	(0.744)	0.570

Table 2. Weights, P values, and VIF for soft skills

soft skills	Type	Weight	SE	P VAL	VIF
SS2	Formative	(0.143)	0.042	<0.001	1.842
SS6	Formative	(0.184)	0.048	<0.001	2.097
SS10	Formative	(0.132)	0.031	<0.001	1.883
SS12	Formative	(0.178)	0.046	<0.001	1.972
SS14	Formative	(0.198)	0.055	<0.001	1.835
SS15	Formative	(0.152)	0.045	<0.001	1.904
SS4	Formative	(0.143)	0.037	<0.001	1.946
SS8	Formative	(0.122)	0.034	<0.001	1.871

Collinearity values are all below 3.5, demonstrating that the measurement model is free from collinearity issues. The predictive relevance of the endogenous variables is measured using the Stone-Geisser Q2 coefficient. In the context of PLS-SEM, A variable is said to have predictive power if its Q2 coefficient is greater than zero. In Table 4, all the Q2 coefficients for the predictors are greater than 0, suggesting that the predictors in the model have good predictive power. Two multivariate normality tests (Jarque-Bera and Robust Jarque-Bera) suggest that the majority of the variables are not multivariate normal. This supported the use of PLS-SEM given that it holds no assumption to the parametric properties of the data (Hair et al., 2017).

Table 3. Heterotrait Monotrait (HTMT) Values

	TPK	TCK	PCK	SOFT	TPACK	CARE
TPK	(0.776)	0.611	0.570	0.527	0.740	0.490
TCK	0.608	(0.808)	0.404	0.345	0.685	0.328
PCK	0.574	0.417	(0.756)	0.633	0.404	0.632
SOFT	0.525	0.356	0.637	(0.707)	0.484	0.639
TPACK	0.724	0.691	0.410	0.479	(0.744)	0.487
CARE	0.496	0.363	0.631	0.629	0.477	(0.801)

Table 4. Reliability and Average Variance Extracted (AVE)

	TPK	TCK	PCK	SOFT	TPACK	Care
Composite reliability	0.819	0.881	0.799	0.888	0.832	0.899
Cronbach's alpha	0.820	0.882	0.799	0.890	0.832	0.899
True composite reliability	0.891	0.912	0.881	0.911	0.888	0.924
Factor reliability	0.820	0.882	0.801	0.891	0.835	0.900
Average Variance Extracted (AVE)	0.602	0.653	0.571	0.500	0.554	0.642
Full Collinearity	2.683	2.111	2.324	2.210	3.027	2.058
Q-squared				0.468	0.628	0.490
Skewness	-0.570	-0.218	-0.996	-0.634	-0.123	-1.081
Excess Kurtosis	-0.398	-0.594	1.008	-0.174	-0.705	0.747
Normal (Jarque-Bera)?	No	Yes	No	No	Yes	No
Normal (robust Jarque-Bera)?	No	Yes	No	No	Yes	No

3. Results

WarpPLS provides model fit and quality indices for the constructed model to help in determining the level of fit between the model and the data. Table 5 provides six classic quality indices. Both Average Variance Inflation Factors (AVIF) and Average for Collinearity (AFVIF) show that the model is free from collinearity at the level of the latent variable and the model level respectively. In addition, all three values for Average Path Coefficient (APC), Average R-squared (ARS), and Average Adjusted R-squared (AARS) are significant at $P < 0.001$; thus, it is possible to reject the null hypotheses that the path values and coefficients of determination were obtained by chance given the no relationship between the set of variables in the mode. The explanatory power of the model is evaluated using Tenenhaus Goodness-of-Fit (GoF) and is very large in the context of the present study. The assessment of causality directions between variables is evaluated using the Simpson Paradox Ratio, R-squared contribution Ratio (RSCR), and Nonlinear Bivariate Causality Direction Ratio (NLBCDR) (Kock, 2019). The values obtained suggest that the model is free from problems concerning causality directions.

Table 5. Model fit indices

Index	Value	Interpretation
Average block VIF (AVIF)	1.539	acceptable if ≤ 5 , ideally ≤ 3.3
Average full collinearity VIF (AFVIF)	2.080	acceptable if ≤ 5 , ideally ≤ 3.3
Average path coefficient (APC)	0.218	$P < 0.001$
Average R-squared (ARS)	0.526	$P < 0.00$
Average adjusted R-squared (AARS)	0.517	$P < 0.001$
Average block VIF (AVIF)	1.53	acceptable if ≤ 5 , ideally ≤ 3.3
Average full collinearity VIF (AFVIF)	2.080	acceptable if ≤ 5 , ideally ≤ 3.3
Tenenhaus Goodnes of Fit (GoF)	0.603	small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36
Simpson's paradox ratio (SPR)	0.846	acceptable if ≥ 0.7 , ideally = 1
R-squared contribution ratio (RSCR)	0.980	acceptable if ≥ 0.9 , ideally = 1
Statistical suppression ratio (SSR)	1.000	acceptable if ≥ 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)	0.923	acceptable if ≥ 0.7

Table 6 presents the direct and mediated effects together with the respective significant levels and effect sizes of each effect. In terms of direct relationships, both TPK and TCK were significantly

associated with TPACK, ($\beta = 0.501, P < 0.001$) and ($\beta = 0.398, P < 0.001$) respectively. Of the two domains, TCK had the larger effect size. The present findings thus support the transformative models generally accepted for teachers' TPACK (Schmidt et al., 2009).

For the set of hypotheses that are the concern of the present study, TPACK ($\beta = 0.297, P = 0.022$) and PCK ($\beta = 0.508, P < 0.001$) were significantly associated with care whereas TPK and TCK were not ($\beta = 0.048, P = 0.378; \beta = -0.055, P = 0.275$). Thus, H1 and H2 were not supported and H3 and H4 accepted. PCK had a medium effect size on care whereas TPACK had a relatively large effect size. In addition, both TPACK and care were significantly associated with soft skills ($\beta = 0.246, P = 0.002; \beta = 0.506, P < 0.001$). This lends support to H5 and H6. The effect size for care was relatively large compared to the medium-size effect for TPACK.

Table 6. Path coefficients

	Path	β	p	f^2
	TPK → TPACK	0.500	<0.001	0.363
	TCK → TPACK	0.401	<0.001	0.277
	PCK → TPACK	-0.032	0.344	0.013
H1	TPK → CARE	0.048	0.378	0.025
H2	TCK → CARE	-0.055	0.275	0.020
H3	PCK → CARE	0.508	<0.001	0.325
H4	TPACK → CARE	0.297	0.022	0.150
H5	TPACK → SOFT SKILLS	0.246	0.002	0.120
H6	CARE → SOFT SKILLS	0.506	<0.001	0.319
H7	TPK → CARE → SOFT SKILLS	0.147	0.071	0.077
H8	TCK → CARE → SOFT SKILLS	0.071	0.154	0.025
H9	PCK → CARE → SOFT SKILLS	0.249	0.021	0.158
H10	TPACK → CARE → SOFT SKILLS	0.150	0.042	0.073

For mediated relationships. Neither the effect of TPK on soft skills via care ($\beta = 0.147, P = 0.071$) nor the mediated effect of TCK on soft skills via care ($\beta = 0.071, P = 0.154$) was significant. H5 and H6 were thus not supported. In contrast, PCK had a significant mediated effect on soft skills through care ($\beta = 0.249, P = 0.021$), supporting H9. The effect size of that

effect was medium. In addition, H10 is also supported as TPACK had a mediated effect on soft skills via care ($\beta = 0.150$, $P = 0.042$) with a relatively small. Thus, TPACK had a mixed effect on soft skills, with both the direct and the mediated effect through care being significant.

4. Discussion

Because teachers in HE settings expect students to be self-organized and independent, care in HE is a matter of balance between closeness and distance (Gholami & Tirri, 2012; Hagenauer & Volet, 2014; Shelton, 2018). A caring student-teacher relationship built on this second understanding better explains the positive relationship between care relationships and the development of soft skills. From the point of view of students, then, a caring teacher in HE is more supportive when they discourage dependency and encourage positive relationships to improve students' academic, personal, and social skills (i.e., soft skills). Such an effect of TPACK on relations might have far-reaching consequences for students' satisfaction, active engagement in learning (Hagenauer & Volet, 2014).

The positive impact of a caring student-teacher relationship on students' soft skills was also one result of the present work. The impact of quality teacher-student relationships on students is well-established in theories of student development from both cognitive-structural and humanistic perspectives. Many studies report positive effects on, for example, commitment (Teven, 2007). Very few studies report specifically on the impact of care, given how peripheral care was in research on higher education (HE). Generally, the results here are in line with the generally known effects of student-teacher relationships on cognitive and personal growth. One point should be clarified here, however: Care in higher education is not an issue of dependency, as it is in schools, but a matter of fostering independence in young adult learners.

5. Implications and Conclusion

The present study has significant implications for TPACK theory, care, and soft skills in online settings. Online courses can help students develop soft skills, which suggests that standalone soft skills courses may not be necessary. Instead, integrating soft skills courses into university using TPACK, and giving a central place to care, may be a better strategy. Teachers who are better equipped with TPACK can provide a positive climate for care to happen (de Freitas & Almendra, 2021) and care is essential for fostering students' communication, critical thinking, and other skills in demand in the 21st-century workplace (Larsen, 2015). In short, teachers need to invest in their knowledge of technology and their identity as careers to develop both skills

and character (Shelton, 2018). Consequently, TPACK research needs to broaden its scope to include the relational aspects of technological and pedagogical choices.

Disclosure Statement

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Notes on Contributors

Oussama Moussaoui is an English language professor, researcher in education. He holds a PhD in Education along with CELTA, TKT (Modules 1, 2, and 3), and TEFL certifications. His academic and professional work focuses on language education, digital transformation in teaching and learning, artificial intelligence in education, and academic research development.

oussama.moussaoui2@usmba.ac.ma

Najib Bouhout is an assistant professor at the Department of English Studies, Faculty of Letters and Human Sciences, USMBA, Fez, Morocco. He got a PhD in Applied Linguistics from the same faculty in 2018. His main research interests include teaching and professional development, discourse, and conversation analysis.

najib.bouhout@usmba.ac.ma

Karim Es-soufi is a university lecturer at the Faculty of Letters and Humanities at Mohammed V University in Rabat. He received his Ph.D. in E-learning readiness and its impact on social cognitive presence in the e-learning environment from Sidi Mohammed Ben Abdellah University of Fez in 2024. He is a licensed educational supervisor and has previously served as an ELT supervisor and teacher in the Fez-Meknes region. His research interests center on the intersection of technology and education, specifically how digital tools can be effectively integrated into instruction to optimize learning outcomes. He also has a keen interest in plurilingual pedagogies and the incorporation of life skills into the curriculum.

karim.essoufi@flsh.um5.ac.ma

ORCID

Oussama Moussaoui  <https://orcid.org/0000-0002-3549-5889>

Najib Bouhout  <https://orcid.org/0000-0002-8638-2534>

Karim Es-soufi  <https://orcid.org/0009-0005-4506-5128>

References

- Anderson, V., Rabello, R., Wass, R., Golding, C., Rangi, A., Eteuati, E., Bristowe, Z., & Waller, A. (2020). Good teaching as care in higher education. *Higher Education*, 79(1), Article 1. <https://doi.org/10.1007/s10734-019-00392-6>
- Chamorro-Premuzic, T., Arteche, A., Bremner, A. J., Greven, C., & Furnham, A. (2010). Soft skills in higher education: Importance and improvement ratings as a function of individual differences and academic performance. *Educational Psychology*, 30(2), 221–241. <https://doi.org/10.1080/01443410903560278>
- Cinque, M. (2016). “Lost in translation”. Soft skills development in European countries. *Tuning Journal for Higher Education*, 3(2), 389–427. [https://doi.org/10.18543/tjhe-3\(2\)-2016pp389-427](https://doi.org/10.18543/tjhe-3(2)-2016pp389-427)
- de Freitas, A. P. N., & Almendra, R. A. (2021). Soft Skills in Design Education, Identification, Classification, and Relations: Proposal of a Conceptual Map. *Design and Technology Education*, 26(3), 245–260.
- Devlin, M., & Samarawickrema, G. (2010). The criteria of effective teaching in a changing higher education context. *Higher Education Research & Development*, 29(2), 111–124. <https://doi.org/10.1080/07294360903244398>
- Devlin, M., & Samarawickrema, G. (2010). The criteria of effective teaching in a changing higher education context. *Higher Education Research & Development*, 29(2), Article 2. <https://doi.org/10.1080/07294360903244398>
- Gholami, K., & Tirri, K. (2012). Caring Teaching as a Moral Practice: An Exploratory Study on Perceived Dimensions of Caring Teaching. *Education Research International*, 2012, 1–8. <https://doi.org/10.1155/2012/954274>

- Hagenauer, G., & Volet, S. E. (2014). Teacher–student relationship at university: An important yet under-researched field. *Oxford Review of Education*, 40(3), 370–388. <https://doi.org/10.1080/03054985.2014.921613>
- Hair, J., Hult, T., Ringle, C., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (Second edition). Sage.
- Kock, N. (2019). Factor-based structural equation modeling with Warppls. *Australasian Marketing Journal*, 27(1), 57–63. <https://doi.org/10.1016/j.ausmj.2019.02.002>
- Lai, M. M., Lau, S. H., Mohamad Yusof, N. A., & Chew, K. W. (2015). Assessing antecedents and consequences of student satisfaction in higher education: Evidence from Malaysia. *Journal of Marketing for Higher Education*, 25(1), 45–69. <https://doi.org/10.1080/08841241.2015.1042097>
- Larsen, A. S. (2015). *Who Cares? Developing a Pedagogy of Caring in Higher Education* [Ph.D., Utah State University]. <https://digitalcommons.usu.edu/etd/4287>
- Noddings, N. (2012). The caring relation in teaching. *Oxford Review of Education*, 38(6), 771–781.
- Rafiq, M. Y., Azad, M. U., Rafique, A., & Chang, L. S. (2020). Development of a Model for Retention of MS/MPhil Students at Virtual University (VU) of Pakistan. *International Journal of Distance Education Technologies (IJDET)*, 18(2), 1-18. <https://doi.org/10.4018/IJDET.2020040101>
- Robinson, A. (2020). A Comparison of Student Technology Acceptance between Traditional and Non-Traditional Students Using Online Learning Technologies. *Online Journal of Distance Learning Administration*, 23(3).
- Santini, F. de O., Ladeira, W. J., Sampaio, C. H., & da Silva Costa, G. (2017). Student satisfaction in higher education: A meta-analytic study. *Journal of Marketing for Higher Education*, 27(1), Article 1. <https://doi.org/10.1080/08841241.2017.1311980>
- Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. (2009). Technological Pedagogical Content Knowledge (TPACK): The Development and Validation of an Assessment Instrument for Preservice Teachers. *Journal of Research on Technology in Education*, 42(2), 123–149. <https://doi.org/10.1080/15391523.2009.10782544>

- Shafie, H., Majid, F. A., & Ismail, I. S. (2019). Technological pedagogical content knowledge (TPACK) in teaching 21st-century skills in the 21st-century classroom. *Asian Journal of University Education*, 15(3), 24–33.
- Shelton, C. (2018). “You have to teach to your personality”: Caring, sharing, and teaching with technology. *Australasian Journal of Educational Technology*, 34(4). <https://doi.org/10.14742/ajet.3557>
- Tang, A. L. L., Walker-Gleaves, C., & Rattray, J. (2020). Hong Kong Chinese University students’ conceptions of teacher care: A dialectical framework of care. *Journal of Further and Higher Education*, 45(5), 573–587. <https://doi.org/10.1080/0309877X.2020.1804534>
- Teven, J. J. (2007). Teacher caring and classroom behavior: Relationships with student affect and perceptions of teacher competence and trustworthiness. *Communication Quarterly*, 55(4), 433–450. <https://doi.org/10.1080/01463370701658077>
- Tseng, J.-J. (2016). Developing an instrument for assessing technological pedagogical content knowledge as perceived by EFL students. *Computer Assisted Language Learning*, 29(2), 302–315. <https://doi.org/10.1080/09588221.2014.941369>
- Walker, C., & Gleaves, A. (2016). Constructing the caring higher education teacher: A theoretical framework. *Teaching and Teacher Education*, 54, 65–76. <https://doi.org/10.1016/j.tate.2015.11.013>
- Wang, A. Y. (2022). Understanding levels of technology integration: A TPACK scale for EFL teachers to promote 21st-century learning. *Education and Information Technologies*, 27(7), 9935–9952. <https://doi.org/10.1007/s10639-022-11033-4>