

2021

Changing teaching practice: The evolving purpose of the teacher in higher education

Prue Gonzalez

Charles Sturt University, Australia, pgonzalez@csu.edu.au

Beate Mueller

University of Technology Sydney, Australia, beate.mueller@uts.edu.au

Kevin Merry

De Montfort University, United Kingdom, kevin.merry@dmu.ac.uk

Colin Jones

University of Southern Queensland, Australia, colin.jones@usq.edu.au

Jo-Anne Kelder

University of Tasmania, Australia, jo.kelder@utas.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/jutlp>

Recommended Citation

Gonzalez, P., Mueller, B., Merry, K., Jones, C., & Kelder, J. (2021). Changing teaching practice: The evolving purpose of the teacher in higher education. *Journal of University Teaching & Learning Practice*, 18(6), 1-11. <https://doi.org/10.53761/1.18.6.01>

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

Changing teaching practice: The evolving purpose of the teacher in higher education

Abstract

In this Editorial, we take the opportunity to expand on the second Journal of University Teaching and Learning theme, *Developing Teaching Practice*. Building on Editorial 18(4), which articulated changes to higher education in the period roughly between 1980 and 2021, we believe it is pertinent to explore the changing conceptions of academic as 'teacher'. We use Engeström's cultural-historical activity theory as a lens to consider how higher education teachers are situated in the current context of rapid changes arising from the COVID-19 pandemic. We explore possible future purposes of higher education to consider flow-on impacts on the purpose of its teachers and how their roles might change to accommodate future expectations. We assert the need to challenge the notion of the academic as a person who is recruited into higher education largely because of their subject matter expertise while maintaining strong commitment to teaching expertise that is grounded in scholarship, critical self-reflection, and agency. In our various teaching and leadership roles, and consistent with the literature, we have observed paradoxical outcomes from the nexus between risk, innovation and development, driving risk aversity and risk management, with significant (contradictory) impacts on teaching, teachers and student learning. The barriers to implementing innovative curricula include questions of do students get a standardised and 'safe' educational experience or are they challenged and afforded the opportunity to transform and grow? Are they allowed to fail? Related, do teachers have genuine agency, as an educator, or are they positioned as agents of a higher education system? We explore these questions and invite our readers to engage in serious reflexivity and identify strategies that help them question their attitudes, thought processes, and assumptions about teaching and student learning. We welcome papers that contribute values-based conversations and explore ways of dealing with and adapting to change in our teaching practices, case studies of learning through failure, change and adaptation and the development of the field.

Practitioner Notes

1. It is useful and important to explore changing conceptions of higher education teachers and teaching practice in the context of rapid changes and emergent (sometimes perverse) outcomes and impacts.
2. Engstrom's Cultural Historical Activity Theory is a useful lens for identifying issues and reflecting on the positioning of teachers and students within higher education.
3. JUTLP welcomes papers that contribute to values-based conversations and scholarly exploration of both the notion and practices of teachers.

Keywords

Teaching practice, academic development, activity theory

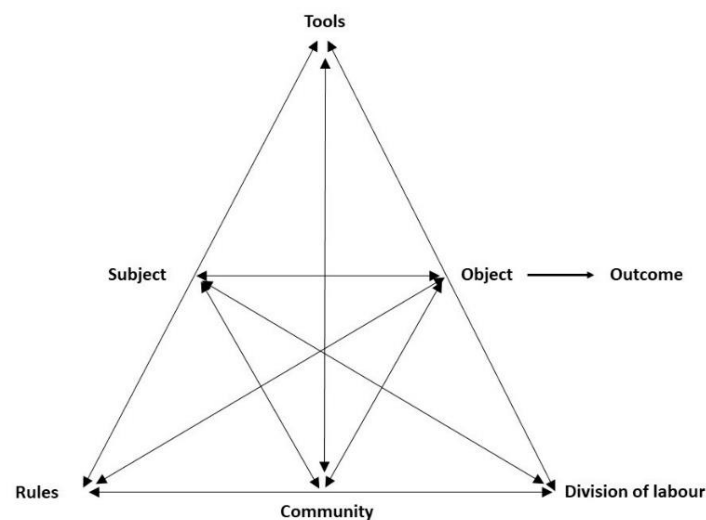
Introduction

In this Editorial, we take the opportunity to expand on the second Journal of University Teaching and Learning Practice theme, *Developing Teaching Practice* and build on the previous Editorial (Percy et al., 2021), which articulated changes to Higher Education in the last 40 years. We critically examine how academics think about and practice teaching as well as describe and evaluate the design and implementation of academic development activities, resources or programs. In believing changing conceptions of ‘teacher’ we use Engeström’s third generation approach to (1987) cultural-historical activity theory (CHAT) as a lens to investigate teachers and their activity systems in higher education. Change in higher education has generally been slow to occur. Despite the presence of will and the existence of pressure, the cogs of the university system tend to turn slowly. But in the past 18 months, we have seen extraordinary challenges and changes in the higher education sector globally. And while the COVID-19 pandemic has exacerbated underlying issues (e.g., equity, access, sustainability, casualisation, job insecurity, and reliance on international student numbers), we have also seen the emergence of nuance and subtlety at different scales and in different spheres. A fast-growing body of literature exists documenting transformations in online learning, teaching and assessment, the need for student and staff wellbeing, the problem of research productivity, institutional leadership, managerialism, government policy and the ongoing sustainability of the sector (Khan et al. 2021; Mackay et al. 2021; McGaughey et al. 2021; Oliveira et al. 2021; Sumer et al. 2021; Watermeyer et al. 2021).

How do we make meaning of the unprecedented rate and diversity of changes we are witnessing, while continuing to bring meaning and value to our work as teachers? CHAT (Engeström, 1987) can provide a lens to help us understand this complexity by providing a focus on the system: recognising the relationships and interconnectedness of human activities, objects and intended outcomes. CHAT offers a framework to education that helps with bridging gaps and crossing boundaries (Postholm & Vennebo, 2020), challenges teachers are now facing daily. It provides a cultural historical view of intersecting and multi-dimensional activities infused with power that may offer insights into emerging activities without restricting them to the system itself (Cliff et al., 2020).

Figure 1

The activity system (adapted from Engeström, 1987).



CHAT has its origins in the work of Vygotsky's (1978) mediated action theory, with Engeström (1987) extending this model to recognise both the individual and the environment: the activity system (Figure 1). Engeström's model comprises an acting *Subject* (an individual/individuals); an *Object* (goal of the activity); *Tools* (social others and artifacts used to mediate learning); *Rules* (formal and informal) that are present within the activity system; the *Community* is the social group within which the subject identifies while participating in the activity; and the *Division of labour* refers to how tasks are shared among the community (Yamagata-Lynch, 2010). Nguyen et al. (2021) in this edition provide an example of such an activity system by examining departmental and collegial factors that play into scholars' research performance.

How might we use CHAT as a lens to investigate the changing conceptions and purpose of teachers? CHAT provides a framework to analyse and understand the relationships between what people think and feel and what people do. It affords the shared reconsideration of the object of activity, allowing for an analysis of different relations within the system both at a particular point in time and as it evolves. And while there are many dyadic and triadic relations between the six key components of Engeström's (1987) framework, they are best understood when the activity system is analysed as a whole unit. CHAT has been applied to many different disciplines and contexts with both descriptive and interventionist approaches. There is also clear recognition that activity systems do not exist in isolation, but as nodes within several interdependent systems (Miles, 2020).

Challenging teaching practice

We assert the need to challenge the notion of the academic as a person who is recruited into higher education largely because of their subject expertise and maintain strong commitment to teaching expertise that is grounded in scholarship, critical self-reflection, and agency as necessary to support effective student learning. The Developing Teaching Practice Section supports the journey academic and professional practitioners take to learn about the practice of applying their discipline knowledge with innovative pedagogy. A recent manuscript in this Section speaks to the challenges women face in higher education teaching against other academic responsibilities (Allen et al., 2021), whereas a manuscript speaking broadly to academic development theory may be better suited to other publication outlets.

Dealing with change is an ongoing process that connects us to the past, present, and future, the historicity principle of Engeström's model. It connects to the past, as we might grieve for something we might have lost. This might be status, identity, colleagues, or achievements, but also a practice or activity that is no longer deemed suitable for the ways we teach now. It could also be a form of idealism or hope that we perceive as no longer attainable. The structures around us might cause the loss, or our changing relationships, development, choices, and identity. As with any form of loss, it takes time, and we need to build strategies to adjust and move on while we often find ourselves reminiscing. How we deal with this loss and the significance of it will inform our present and future practice; a strong narrative in the *Journal of University Teaching and Learning Practice* during COVID-19 (e.g., Eri et al., 2021; McGill et al., 2021; Stevens et al., 2021).

"In important transformations of our personal lives and organizational practices, we must learn new forms of activity which are not yet there. They are literally learned as they are being created." (Engeström, 2001, p. 138). The rapid transformation of the global higher education sector is in full force. We have seen changes in management models, quality assurance, standardisation, and reporting; in student admissions, course profiles; and pedagogy and curriculum. But what does the transformation mean for the 'academic'? The 'sage on the stage', teacher as expert, gatekeeper to knowledge?

In the traditional paradigm of education—whereby knowledge, experience and values are transmitted to others—we are met with numerous paradoxes, or broken paradoxes with lifeless results, as Palmer explains:

We separate head from heart. Result: minds that do not know how to feel and hearts that do not know how to think.

We separate facts from feelings. Result: bloodless facts that make the world distant and remote and ignorant emotions that reduce truth to how one feels today.

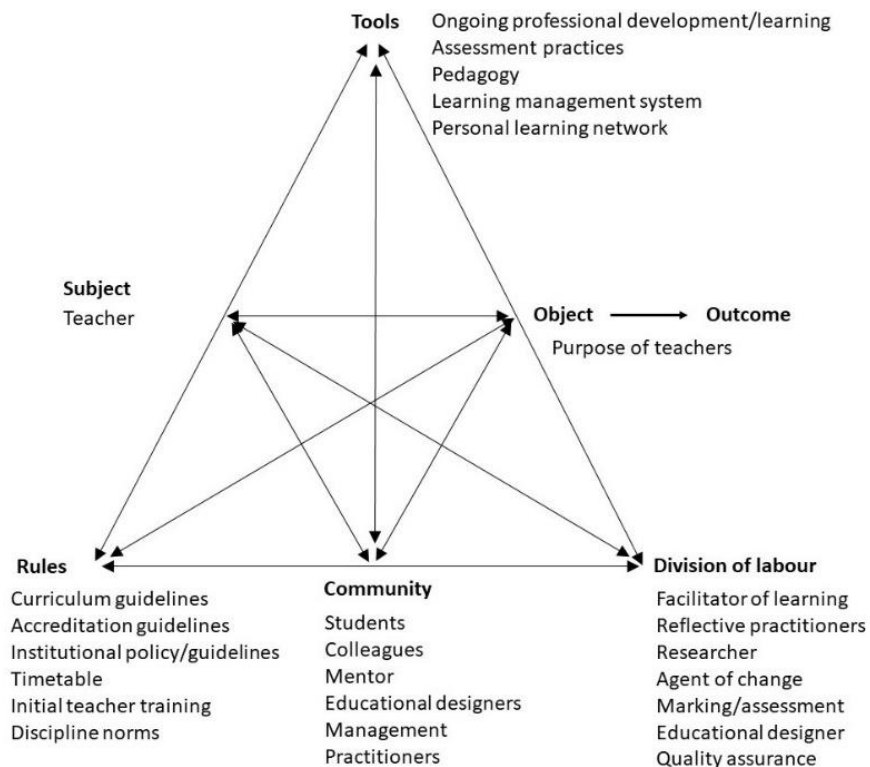
We separate theory from practice. Result: theories that have little to do with life and practice that is uninformed by understanding.

We separate teaching from learning. Result: teachers who talk but do not listen and students who listen but do not talk. (2007, p. 68)

Palmer invites us to embrace the paradoxes, to avoid either-or thought, and to “think things together” in a view of the world in which opposites are joined so that we can see the world clearly and whole (2007, p. 69). Indeed CHAT, as a lens through which we can understand and make sense of the teacher role, is a useful barometer for tensions that arise within the different nodes of the activity system. This provides the ability to identify contradictions and paradoxes, and then challenge and transform from within the system with a holistic approach. This is illustrated in Figure 2 using as the subject a teacher who would like to describe and understand their purpose.

Figure 2

An example of using CHAT to explore a teacher’s ‘purpose’. Adapted from De Beer (2019).



When CHAT is used as a research lens, we identify the *Tools, Rules, Community* and *Division of labour* depending on the specific Object in the activity system. We are also provided the ability to identify contradictions and tensions: in the above example we can clearly see the direct relationships and influences on a teacher's purpose. By identifying the dimensions of teaching as an activity system, we are able to interrogate where we have control, where we *can* have control and where we can have influence over the activity system. To encourage determination and change, we need to be able to articulate and tease apart contradictions. In our own individual work and experiences, we are seeing contradictions and paradoxes in higher education:

- Technology as both transformative and as disruptor.
- The emergence of pedagogies of kindness, inclusivity and trauma-informed pedagogy, and the strengthening of universal design for learning alongside standardized quality assurance programs.
- The tension between the push for innovation in teaching and learning amidst an increasingly risk-averse sector.
- The demand for teachers as subject matter experts amidst a world that is information rich.
- The institutional drive to reach positive metrics and the educational drive for students to be challenged (and to be allowed to fail).
- The sometimes-conflicting strains of faculty/academic self-care and the need for student pastoral care and support.

How do we bridge these seemingly broad divides? Engeström (2001) advocates for sideways moves from within the activity system. Directionality is important; significant sideways learning allows for small, incremental movements toward expansive learning by means of debate, negotiation, and shared experimentation. Contradiction is inherent in any system and is the engine of change. In this case we, the teachers, are the agents of change, keeping the process moving, evolving, and growing. As Parker J. Palmer (2007, p.95) reminds us: "When we think things together, we reclaim the life force in the world, in our students, in ourselves." The Developing Teaching Practice section of the *Journal of Teaching and Learning Practice* advocates for deliberate and purposeful reimagining of professional praxis. Beatty et al. (2020b) explored the impact of a community of practice to surface, challenge and reflect upon aspects of pedagogy and teaching quality in early career academics, while Vlachopoulos and Jan (2020) challenged and evaluated teaching methods in relation to student attendance, preference and motivation, with resultant practical implications.

Changing teaching practice

Our purpose as teachers is one of constant change. And change will be different for everyone. Being an educational scholar is not enough to take control of the change, particularly when there are rules that are bigger than us. Cultural-historical activity theory provides an opportunity for us to envisage what the change is that we want, to envisage what is required, and envisage what it would mean to bring about that change. We are educating for unknown futures: what sideways moves can we make to challenge and transform our teaching practice?

Viewed in this way, we wish to invite authors to contribute to intentional and critical explorations in developing teaching practice. Connor et al. (2021) identify changes in how teaching occurs on four dimensions, the *how, why, when, and where*. There is probably a fifth dimension, the *what*. The questions around *why* we teach and *what* is deemed as essential knowledge and skills, change all the time and teachers have to pivot to these changes. "People and organizations are all the time learning

something that is not stable, not even defined or understood ahead of time” (Engeström, 2001, p. 137). There is a myth of the ‘competent teacher’. Our students change, our discipline knowledge changes, our administration changes ... and we change as teachers. Daily, we are faced with contradictions, uncertainty, and complexity, and this is before we consider the rapid changes exacerbated by the COVID-19 pandemic.

On the *where* and *how* dimensions, for many years, the foundation of the university experience has been the lecture theatre, the space where academics talk in commanding fashion, pontificating on their specialist subject, often in a caffeinated whirl. As such, a common and persistent assumption about higher education is that teaching is telling, and learning is absorbing. A model, in which subject content is knowledge, and the bearer of knowledge is the academic as subject matter expert. This model has been in place for literally hundreds of years, and to an extent, it is what most of us recognize as a higher education learning experience, including many students.

Questions have been raised about the suitability of the telling-absorbing model for at least 20 years (Spence, 2001). For the most part, such questions refer to the apparent disconnect between what students actually need from higher education, and the way in which their learning has traditionally been supported. For example, individuals today are exposed to a plethora of information on multiple topics, emanating from multiple sources. Indeed, we live in the most information-rich times in human history. As such, the requirement for individuals to select the small proportion of appropriate knowledge from much larger pools of knowledge, and *use it* to solve problems, often in multiple contexts, has perhaps never been greater than it is today.

The emphasis on using knowledge is critical because the sheer availability of information perhaps means that there is less need for experts to provide it to students than in previous generations, with students instead needing to become more adept at finding, differentiating, classifying, and ultimately using information. Subsequently, it could be argued that students today require teachers to support, guide, and develop their ability to use information appropriately rather than simply pass it on. Flexible knowledge, that which can be applied to multiple and changing contexts, appears more important than ever, and so perhaps points to a curriculum that is more generalist than narrow, where depth is sacrificed for breadth. Perhaps these dichotomies guide the way to new specialities and skills sets needed as a teacher in higher education, as described and evaluated by Beatty et al. (2020a) in relation to the internationalisation of the student body, and Whitburn et al. (2021) when considering teaching approaches in human anatomy classes.

We recognise that if *how* we teach is open to question due to our changing relationship with knowledge, then *what* we teach is most certainly up for debate too. For example, the World Economic Forum (2020) estimates that 65 percent of current primary school students will end up working in jobs that do not exist yet. Similarly, it is estimated that approximately 50 percent of the subject knowledge in a technical degree is likely out of date by the time a student reaches graduation (World Economic Forum, 2020). As such, it can be argued that the knowledge ‘told’ to students by subject matter experts as part of their university experience may only be relevant to them at that moment in time. However, how useful will it be to them over the course of their career, which for many students currently in their late teens and early twenties, is likely to last more than 40 years? In truth, our relationship with knowledge—how we acquire it, what we do with it, and how we apply it to different circumstances in varying conditions—is perhaps the catalyst that will shape the *how* and the *what* of modern higher education teaching and learning.

A key theme of modern higher education is the ‘education-future labour market fit’. This is essentially how well programmes of education prepare graduates for the future labour market. Central to success in the future labour market is the acquisition of so called ‘21st century skills’, which are described as the more general skills required for living and working in the 21st century,

and include collaboration, communication, problem-solving and critical thinking (Habets et al., 2020). For the future workforce, these more general skills may be equally, if not more important than job-specific skills, with some commentators stating that they should be taught over and above subject-specific knowledge (Kay & Greenhill, 2011; Van der Heijde & Van der Heijden, 2006). As such, do we need to put such a strong emphasis on subject expertise when recruiting academic colleagues? How do academics have to model these general skills? Perhaps universities need to support a learning experience that espouses breadth over depth? One that is more generalist than specialist, but critically one which supports students to become more adept at communicating, collaborating, solving unexpected problems, and thinking critically.

Based on this outlook on the future, there is no such thing as a ‘competent teacher’. If this is the case, then are we all a novice/learner? Is there a need for teachers to wear the beginner’s hat, bring with them their beginner’s mindset, and act as a guide-by-the-side, or facilitator to support student learning and development? The editorial team encourages and welcomes contributions that challenge and reimagine the way we develop teaching practice in higher education.

Developing teaching practice

To close this Editorial, we build on Percy et al.’s (2021) earlier advocacy for a reflexive approach to submissions to our Journal, by encouraging future contributors to engage deeply with the multi-faceted theme of Developing Teaching Practice. We invite contributions to the critical conversations related to academic (faculty) professional learning that is intentional in developing teaching practice. Developing Teaching Practice is a theme that recognises the challenges, failures, vulnerability, and reflexive practices inherent to being a teacher. We believe that teachers who are pedagogically supported and equipped for teaching disciplinary knowledge are essential in higher education.

Developing Teaching Practice articles will contribute to improving how academics think about and practice teaching as well as describing and evaluating the design and implementation of academic development activities, resources, or programs. To this end, we encourage exploration of critical and emerging themes not only about individual teaching practice but also development of the field: what it is, what it means, where it is, where it is going and where it needs to be going. Such themes might include: the role of genuine agency as an educator within in higher education system; the purpose, role, and beneficiaries of reflexive practice as a teacher; harnessing the importance of failure in educational systems (for teachers and students); the tensions between promoting deep learning and thinking within linear educational systems and implications for developing our teaching practice.

We welcome papers that contribute values-based conversations seeking to continue exploring ways of dealing with and adapting to change in our teaching practices, case studies of learning through failure, change and adaptation and the development of the field. We invite critical conversations on developing teaching practice that challenge our assumptions of what makes a ‘good’ or ‘competent’ teacher, of how we can enact our own development as teachers, and of how we can infuse a strong sense of identity into our work to support student learning and development.

References

- Beatty, S., Clark, K., & Doherty, S.-A. (2020a). A practical look at the why and how of supporting international students: A checklist of teaching tips. *Journal of University Teaching & Learning Practice*, 17(5), 1-12. <https://ro.uow.edu.au/jutlp/vol17/iss5/12/>
<https://doi.org/10.53761/1.17.5.12>
- Beatty, S., Clark, K., Lines, J., & Doherty, S.-A. (2020b). Tlabs: A teaching and learning community of practice - what is it, does it work and tips for doing one of your own. *Journal of University Teaching & Learning Practice*, 17(5), 1-11.
<https://ro.uow.edu.au/jutlp/vol17/iss5/9/>
<https://doi.org/10.53761/1.17.5.9>
- Cliff, A., Walji, S., Jancic Mogliacci, R., Morris, N., & Ivancheva, M. (2020). Unbundling and higher education curriculum: a Cultural-Historical Activity Theory view of process. *Teaching in Higher Education*, 1-16. <https://doi.org/10.1080/13562517.2019.1711050>
- Connor, M., Mueller, B., Mann, S., & Andrew, M. (2021). Pivots, pirouettes and practicalities: Actions and reactions of work-integrated learning practitioners. *Journal of University Teaching & Learning Practice*, 18(5). <https://ro.uow.edu.au/jutlp/vol18/iss5/2>
<https://doi.org/10.53761/1.18.5.2>
- De Beer, J. (2019). Cultural-historical activity theory (CHAT) as a practical lens to guide classroom action research in the biology classroom. *The American Biology Teacher*, 81(6), pp.395-402. <https://doi.org/10.1525/abt.2019.81.6.395>
<https://doi.org/10.1525/abt.2019.81.6.395>
- Engeström, Y. (1987). *Learning by Expanding: an activity-theoretical approach to developmental research*. Orienta-Konsultit.
- Engeström, Y. (2001) Expansive learning at work: toward an activity theoretical reconceptualization, *Journal of Education and Work*, 14(1), 133-156,
<https://doi.org/10.1080/13639080020028747>
- Eri, R., Gudimetla, P., Star, S., Rowlands, J., Girgla, A., To, L., Li, F., Sochea, N., & Bindal, U. (2021). Digital resilience in higher education in response to COVID-19 pandemic: Student Perceptions from Asia and Australia. *Journal of University Teaching & Learning Practice*, 18(5). <https://ro.uow.edu.au/jutlp/vol18/iss5/7>
<https://doi.org/10.53761/1.18.5.7>
- Habets, O., Stoffers, J., Van der Heijden, B. V., & Peters, P. (2020). Am I fit for tomorrow's labor market? The effect of graduates' skills development during higher education for the 21st century's labor market. *Sustainability*, 12(18), 1-13. <https://doi.org/10.3390/su12187746>
- Kanuka, H., & Sadowski, C. (2020). Reflective peer observations of university teaching: A Canadian case study. *Journal of University Teaching & Learning Practice*, 17(5).
<https://ro.uow.edu.au/jutlp/vol17/iss5/11>
<https://doi.org/10.53761/1.17.5.11>
- Kay, K., & Greenhill, V. (2011). Twenty-first century students need 21st century skills. In G. Wan & D. Gut (Eds.), *Bringing Schools into the 21st Century. Explorations of Educational Purpose* (vol 13, pp. 41-65). Springer. https://doi.org/10.1007/978-94-007-0268-4_3
- Khan, U. R., Khan, G. M., & Arbab, K. (2021). Creating 'COVID-safe' face-to-face teaching: Critical reflections on on-campus teaching during a pandemic. *Journal of University*

- Teaching & Learning Practice, 18(5). <https://ro.uow.edu.au/jutlp/vol18/iss5/9>
<https://doi.org/10.53761/1.18.5.9>
- McGaughey, F., Watermeyer, R., Shankar, K., Ratnadeep Suri, V., Knight, C., Crick, T., Hardman, J., Phelan, D., & Chung, R. (2021). 'This can't be the new norm': academics' perspectives on the COVID-19 crisis for the Australian university sector, *Higher Education Research & Development*, <https://doi.org/10.1080/07294360.2021.1973384>
<https://doi.org/10.1080/07294360.2021.1973384>
- McKay, L., O'Bryan, S., & Kahu, E. R. (2021). "My Uni Experience Wasn't Completely Ruined": The Impacts of COVID-19 on the First-Year Experience. *Student success*, 12(2), 1.
<https://doi.org/10.5204/ssj.1762>
- Miles, R. (2020). Making a case for cultural historical activity theory: examples of CHAT in practice. *Studies in Technology Enhanced Learning*, 1(1).
<https://doi.org/10.21428/8c225f6e.c4feefa5>
- Moritz, D., Pearce, S., Christensen, L. S., & Stamboulakis, D. (2021). Designing a peer-led approach to teaching review and enhancement in academia. *Journal of University Teaching & Learning Practice*, 18(1). <https://ro.uow.edu.au/jutlp/vol18/iss1/7>
- Oliveira, G., Grenha Teixeira, J., Torres, A., & Morais, C. (2021). An exploratory study on the emergency remote education experience of higher education students and teachers during the COVID-19 pandemic. *British Journal of Educational Technology*, 52(4), 1357-1376.
<https://doi.org/10.1111/bjet.13>
- Palmer, P. J. (2007). *The courage to teach: exploring the inner landscape of a teacher's life*. Jossey-Bass.
- Percy, A., Press, N., Andrew, M. B., & Pollard, V. (2021). Reframing theory of, and for, practice in higher education. *Journal of University Teaching & Learning Practice*, 18(4).
<https://doi.org/10.53761/1.18.4.1>
- Postholm, M. B., & Vennebo, K. F. (2020). *Applying cultural historical activity theory in educational settings: learning, development, and research*. Routledge.
<https://doi.org/10.4324/9780429316838>
- Spence, L. D. (2001). The case against teaching. *Change: The Magazine of Higher Learning*, 33(6), 10-19, <https://doi.org/10.1080/00091380109601822>
- Sumer, M., Douglas, T., & Sim, K. (2021). Academic development through a pandemic crisis: Lessons learnt from three cases incorporating technical, pedagogical and social support. *Journal of University Teaching & Learning Practice*, 18(5).
<https://ro.uow.edu.au/jutlp/vol18/iss5/1>
<https://doi.org/10.53761/1.18.5.1>
- Van der Heijde, C. M., & Van Der Heijden, B. I. J. M. (2006). A competence-based and multidimensional operationalization and measurement of employability. *Human Resource Management*, 45, 449-476. <https://doi.org/10.1002/hrm.20119>
- Vlachopoulos, P., & Jan, S. (2020). Exploring modes of lecturing as a teaching method in higher education: Student attendance, preference and motivation. *Journal of University Teaching & Learning Practice*, 17(5), 1-20. <https://ro.uow.edu.au/jutlp/vol17/iss5/15/>
<https://doi.org/10.53761/1.17.5.15>

- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Watermeyer, R., Shankar, K., Crick, T., Knight, C., McGaughey, F., Hardman, J., Suri, V. R., Chung, R., & Phelan, D. (2021). 'Pandemia': a reckoning of UK universities' corporate response to COVID-19 and its academic fallout. *British Journal of Sociology of Education*, 1(16). <https://doi.org/10.1080/01425692.2021.1937058>
- Whitburn, L. Y., Colasante, M., McGowan, H., Hughes, D. L., McDonald, A. C., Green, R. A., & Zacharias, A. (2021). Team-taught vs sole-taught anatomy practical classes: Enhancing the student learning experience. *Journal of University Teaching & Learning Practice*, 18(3). <https://ro.uow.edu.au/jutlp/vol18/iss3/04/>
<https://doi.org/10.53761/1.18.3.4>
- World Economic Forum. (2020). *Future of jobs report 2020*. http://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf
- Yamagata-Lynch, L. C. (2010). *Activity systems analysis methods: Understanding complex learning environments*. Springer. <https://doi.org/10.1007/978-1-4419-6321-5>