Video use in classroom observation:
An international review of methodologies
in teacher evaluation.

By: Glenn Chippendale

Preamble

For many Australians who return from travels in Europe it is often heard that in driving six hours, they have travelled through six nations. In contrast, when travelling six hours in Australia a driver may barely see another car, let alone anything that resembles civilisation.

It is reasonable to say that within many Australian states travelling six hours may not even see a traveler cross a border, nor arrive at a major urban centre.

This geographical context is an important consideration for educational jurisdictions in Australia when looking to implement teacher certification, and particularly the parts of the certification process which involve direct observation of a teacher in a classroom. Within Australia, careful consideration is required to ensure that the vastness of the country is not an impediment to the delivery of a national approach that recognises teaching quality and esteems the profession. As national certification of Highly Accomplished Teachers (HAT) and Lead Teachers (LT) grows across the country, evidenced by increases in 2017 (aitsl.edu.au), it is proposed that careful consideration by the Australian Institute for Teaching and School Leadership (AITSL) and the Certifying Authorities Network (CAN) is required on how to maintain rigour and comparability, while catering for those states and territories where costs to visit sites may become an impediment to a scalable and sustainable certification system.

By example, Queensland has piloted the national certification system in 2017 and 2018, with full implementation to occur in 2019. In the 2017 school year, the Department of Education (DoE) in Queensland conducted 36 site visits in two regions, Far North Queensland and North Coast. The sum cost of the visits for travel alone was $43, 200, or an average cost of $1, 200 per site visit. The number of days that assessors were absent from their school was on average 2.5 days, with a total salary cost of $1,150 (using current teacher-relief scheme cost). This is an average total cost per site visit of $2,350 using data from the DoE pilot. Given there remains a general view that certification fees cannot or should not exceed $1,825, there is significant challenge in delivering a cost-neutral process while also taking into consideration the additional wage and administrative costs for the site visits.

In 2019 the Queensland Government is implementing the national certification process in the state school sector across Queensland as per the Palaszczuk Government's

2015 *Letting Teachers Teach* election commitment (queenslandplan.qld.gov.au). The DoE has put in place further additional requirements regarding years of service beyond the requirements of annual performance reviews as required in the Guide to Certification of Highly Accomplished and Lead Teachers (AITSL, 2017, p.9). While this additional requirement is not to limit eligible applicants in Queensland state schools, it is important to note that, even with this additional years of service pre-requisite, there are still in excess of 33, 000 eligible teachers in DoE schools. Using pilot data, it can be extrapolated that if all eligible teachers in Queensland were to apply, some 6,800 site visits would need to be conducted with travel costs over $8 million and salary payments of approximately $8 million. Whilst there continues to be significant investment in education from the Queensland Government an additional $16 million to support the teacher certification would have to be considered within the range of investment priorities already competing for Government funding.

Given the potential costs of implementation of certification in Queensland, the DoE has identified the need to consider alternative options to reduce the costs of national certification through using video observation at the second state of the certification process (Stage 2) instead of a site visit. The following literature review explores methodologies in teacher evaluation systems, where video is used in evaluation system, and how video classroom observations serve as a useful tool in fitting within the broader purpose certification.

The research highlights video observation is not extensively used internationally. However in countries where there is a national evaluation system and geographic distance, video is used to review classroom practices within a broader methodology to gain a fulsome and reliable picture of an applicant. The pilot to explore video observation by the Australian Institute for Teaching and School Leadership (AITSL) as a methodology within a national evaluation system will place Australia at the forefront of this research in determining the use of video observation in an evaluation system provides reliable and comparable judgements.

Table of Contents

Glossary

AITSL – Australian Institute for Teaching and School Leadership

APST – Australian Professional Standards for Teachers

ATP – National Assessor Training Program

DoE – Queensland Department of Education

HAT – Highly Accomplished Teacher

LT – Lead Teacher

OECD – Organisation for Economic Cooperation and Development

QCT – Queensland College of Teachers

Introduction

Over recent years, governments and schools have grappled with the issue of how to improve learning outcomes produced in schools internationally. This focus on improvement has been driven in part by major comparative works published by the OECD along with other corporate reports, for example McKinsey & Company and the Grattan Institute, that promote international agreement amongst researchers that high performing education systems are dependent upon the quality of the day-to-day teaching. For example, both Barber and Mourshed (2007, p. 13) and Jensen (2012, p. 12) make reference to the best school systems across the globe having a strong focus on teaching, and more specifically on pedagogy. These finding are not new. There is plenty of evidence that good teaching makes a difference, and that really good teaching makes a significant difference for student outcomes (Hattie, 2003, p. 2; Rowe, 2003, p. 15; Lingard et al, 2003; OECD, 2005, p. 2). Research quoted by Marzano et al (2006, p. 1) indicate that the teacher may account for as much as a 30% variance in achievement. Given this strong research-base on the quality of teaching in lifting student performance, it should not be surprising that the Australian Government introduced a body to support and enhance quality teaching in Australia.

To support the strengthening of the teaching profession and, thereby, the quality of student learning resulting in improved student outcomes, former Australian Government Minister for Education, Science and Training, Dr Brendan Nelson, announced the establishment of a National Institute for Quality Teaching and School Leadership on 17 July 2003 (jcqta.qld.edu.au). Over the years, this body has transitioned, and in 2010, the Australian Institute for Teaching and School Leadership (AITSL) took over the remit to support and advance the effectiveness and standing of the teaching profession. AITSL seeks to be a unifying body for teachers and school leaders, drawing the profession together to promote quality teaching and excellence in school leadership. It's mission is to "promote excellence [in teaching] so that teachers and school have the maximum impact on learning in all Australian schools and early childhood settings". AITSL continues its role by:

- defining and maintaining standards for teachers and principals

- leading and influencing improvement in teaching and school leadership

- supporting and recognising high quality professional practice

- continuing to undertake the function of a designated assessing authority for the purpose of skilled migration to Australia for pre-primary, primary, middle, secondary and special education teacher occupations.

(AITSL, 2014, p.10)

Of most significance for this paper is exploring international work on monitoring and evaluating teaching. Research completed by the OECD (2009, p. 3) states, "meaningful evaluation involves accurate appraisal of the effectiveness of teaching, its strengths and areas for development, followed by feedback, coaching, support and opportunities for professional development". One methodology used by many nations is a teacher evaluation system. Internationally, there is a complex range of features and methodologies included within teacher evaluation systems. However, across the globe there is a general use of classroom observation, in person or through video, to focus on teacher instruction.

International teacher evaluation systems

Teaching practices and evidence of student learning are relevant sources of information about a teacher's professional performance. Research by the OECD states "classroom observations are the most common source of evidence used in OECD countries, whether American (e.g. Canada, Chile, United States), European (e.g. Denmark, France, Ireland, Spain) or Asian-Pacific (e.g. Australia, Japan, Korea). Such instrument shows whether the teacher adopts adequate practices in his more usual workplace: the classroom (Isoré, 2009)".

Teacher evaluation systems in Europe

In exploring the European nations mentioned in the OECD report (2009) there was significant variance in what was accessible on the instruments and information sources used within evaluation systems. However, some information from France and Northern Ireland was available. The French Ministère Education Nationale in 2012 continued observation by an inspector and a teacher-inspector with two different models employed between primary and secondary teachers (sici-inspectorates.eu). Similarly, evaluation procedures in Northern Ireland are conducted in alignment to the Performance Review and Staff Development Scheme (Shewbridge et al, 2014, p. 86). This scheme applies to all teachers including

temporary, part-time and beginning teachers, as well as principals and assistant principals (Shewbridge et al, 2014, p. 86). A key component of the appraisal system is observation of teaching practice during inspection visits. During these visits, two lessons are observed on site (Shewbridge et al, 2014, p. 86).

Teacher evaluation systems in the Americas

The observation of teacher's classroom practice is similarly valued in the Americas when compared with Europe. In Canada, the research indicates that individual provinces oversee the equivalent of teacher certification. When conducting research numerous provincial information sites were found, for example the British Columbia Ministry for Education (bcteacherregulation.ca/index.aspx), Ontario College of Teachers (oct.ca/home.aspx), the Alberta Teachers' Association (education.albert.ca) to name just a few. The Ontario Ministry for Education Teacher Performance Appraisal Technical Requirements Manual sets out the regulations for performance appraisals within their jurisdiction. All performance appraisals in Ontario require the following elements; a pre-observation meeting, a classroom observation, a post-observation meeting, and a summative report that includes a rating of the teacher's overall performance (2010, p. 29).

Mexico's Carrera Magisterial is the pioneer in teacher incentive programs of the world. Instituted in 1992 the promotion system rewards teachers with salary bonuses based on performance through a series of assessments, including teacher and student tests. The Mexican evaluation system also includes professional performance evaluation by a supervisor and through peer review (rand.org).

In the United States, while states do have their own jurisdictional evaluation processes, a national approach to certification is available through the National Board for Professional Teaching Standards. The National Board was founded in 1987 and developed an intensive process that is "performance-based, multiple-measure, peer-reviewed, anonymously submitted and built on the highest standards of measurement" (nbpts.org) Obtaining National Board Certification is a rigorous process. To achieve recognition as an accomplished teacher, applicants must demonstrate practice against the Five Core Propositions (accomplishedteacher.org). The certification process requires the completion of assessment in four areas: Content Knowledge, Differentiated Instruction, Teaching Practice and Learning Environment. Within the teaching practice component of national board certification,

applicants are required to submit two videos of practice of 10-15 minutes (nbpts.org). The purpose of these videos are to target significant aspects of teaching practice in different contexts (nevadanationalboardnetwork.com).

Teacher evaluation systems in the Asia-Pacific region

Like many international jurisdictions, Asian countries including Japan and Korea have evaluation systems. Research indicates Japan, like multiple other nations, has numerous local education boards that oversee individual evaluation systems. Katsuno (2010, p. 293) states, "almost all education boards in Japan have redesigned their teacher evaluation methods". Katsuno (2010, p. 293) cites Kariya et al (2009) who describe the scheme as "development-orientated and collaborative elements such as goal-setting and assessment meetings with head teachers, lesson observations, and self-reviews of performance and competence".

Korea also has a national evaluation system. Choi and Park (2016, p. 151) identify the country "has used three different teacher evaluation systems since the 1960s: teacher performance rating, teacher performance-based pay and teacher evaluation for professional development". The 'teacher evaluation for professional development' initiative was launched nationwide in 2010 (Choi & Park, 2010, p. 167). Through the analysis of Choi and Park's 2016 work it seems that classroom observation is not part of the evaluation system. Instead, the national Korean system includes Likert scaled and open-ended questions of the teacher, plus questionnaires for students and parents.

Teacher evaluation in Australia

Many Australian States and Territories have explored options to recognise and celebrate the complex nature of a teacher's work. For example, Education Queensland's Professional Standards for Teachers (education.qld.gov.au); Level 3 Classroom Teacher Program (det.wa.edu.au) and Leading Teachers and Learning Specialists (education.vic.gov.au) are various initiatives implemented across states/territories to esteem the profession. National certification builds upon the work of states and territories to recognise and promote quality teaching (AITSL, 2017, p. 4). The AITSL state "national certification uses the Australian Professional Standards for Teachers as a basis for making rigorous and consistent judgements regarding the certification of teachers at the higher career stages across Australia" (2017, p. 3). Further the Guide to Certification of Highly

Accomplished and Lead Teachers in Australia (the Guide) states, "certification of Highly Accomplished and Lead teachers provides a reliable indication of quality teaching" (2017, 4). Certification could be claimed as a reliable indication of quality teaching through providing a comprehensive teacher evaluation model that integrates multiple methodologies and purposes.

Teacher evaluation for improvement

The OECD (2009, p. 8) state "teacher evaluation for improvement focuses on the provision of feedback useful for improvement of teaching practices through helping teachers learn about, and, reflect on, practice". Teacher certification has a focus on improvement across the assessment stages. The AITSL (2017, p. 4) state

> "certification is part of a wider career development approach that includes professional learning, performance assessment and development. Participation in the certification process should be a positive experience for participants and provide useful feedback that further enhances development and learning, including for those teachers who do not achieve certification".

Further supporting this improvement focus is the recognition that a primary purpose of certification in Australia is "to provide an opportunity for teachers to reflect on their practice" (AITSL, 2017, p. 4). This primary purpose is regularly articulated in The Guide to Certification of Highly Accomplished and Lead Teacher stating, "national certification aims to contribute to the improvement in teacher quality by focusing on self-reflection ..." (AITSL, 2017, p.3). Further, the certification guidelines identifies that the process "involves considered reflection on the teacher's individual classroom practice ..." (AITSL, 2017, p. 3). It is clear that AITSL sees developing reflective practices as a key component to improving teacher quality.

Reflective Practice in the education context

The processes associated with developing reflective practitioners in education is increasingly embedded in teacher professional development programs (Zwozdiak-Myers, 2012). While professional development programs may support reflection, there is a need for

reflection to become a part of the day-to-day practice of teachers. Research on the value of reflective practice for individual teachers identifies the positive contribution of reflection in developing higher teacher efficacy as reflective practitioners ask searching questions about educational practices arising from their own context and professional concerns (Zwozdiak-Myers, 2012, p. 3; Haigh, 2000, p. 91; Jaeger, 2013, p.99; Belvis, Pindea, Armengol & Moreno, 2013, p. 279). The impacts of teacher efficacy are also well reported by Hattie (visible-learning.org).

Several authors identify that central to the ongoing development of teachers is a commitment and capacity to analyse and evaluate what is happening in lessons and use professional judgements to improve student learning and the quality of practice. Jaeger (2013, p. 98) states "there is almost universal agreement that effective teachers reflect regularly and deeply on their practice". A brief review of literature identifies an array of variations in how reflection is defined, described and explained. Tannebaum, Hall and Deaton (2013, p. 243) quote Dewey (1933) who describes reflection as occurring because of "a directly experienced situation that leads to purposeful inquiry and problem resolution". In the classroom Jaegar (2013) states that "Schon (1983) suggests that the reflective teacher brings to his or her practice tactical and strategic knowledge. He (Schon) refers to the former as knowing-in-action, which leads to spontaneous action for which the teachers is hard pressed to provide an explicit rationale". Lisle (2006), identifies this 'reflective practice in education is "learning-in-practice". Lisle's work, like many other contemporary researchers on reflective practice, draws on the concept of the reflective practitioner published by Schon in 1983. No matter the definition or concepts provided by various researchers, the critical question remains if reflection in practice positively influences students and their colleagues.

Understandably, reflection is prompted when classroom experiences do not fit those that were planned. However, reflection-for action, as described by Schon (1983), also plays a critical role, especially for pre-service and early years teachers. Jaeger (2013, p. 98) states "student teachers whose instruction improved the most also had the most reflective statements in their journals". Given the positive impact on professional practice of reflection, it is not surprising AITSL has a strong focus on developing practitioners who continuously examine their classroom practice, individually and collaboratively, against the Australian Professional Standards for Teachers (ASPT). The focus of AITSL on reflection is supported by a range of scholars as outlined in Tannebaum, Hall and Deaton's work (2013, p. 224) who

state, "reflective practice has the potential to positively impact both students and their colleagues".

While research does note the 'potential' impact of reflection, it does appear that there are some gaps in the research that make it difficult to claim that reflection is responsible for positive impacts, especially on student learning. There does however seem to be some evidence to support improvement in practice. Jaegar (2013, p. 98) quotes research by Freiberg and Waxman (1990) which found, when comparing graduates of teacher education programs with reflective orientation with those who graduated prior to the reflective focus, that more reflective graduates spent less time on management and made more academically-oriented statements. They further found that their students also were less likely to be off-task. Hattie (2009, p. 102) states that the effect size of "well-managed classrooms was $d=0.52$ and on heightened engagement was $d=0.62$". Using this research, it could be surmised that less time on management of a classroom increases time on task through heightened engagement.

Self-reflection and teacher efficacy

There is some evidence that reflection does improve instruction. Dieker and Monda-Amaya (1995) proposed advantages of teachers who chose to engage in reflective process. These advantages include the ability to make changes in methodology, evaluate effectiveness and the objective of their instruction, learning to relate class experiences and its content to make changes in instruction, and helping teachers systematically assess challenges in the teaching context to initiate helpful solutions. Braun and Crumpler (2004) continue research with similar design, putting forward that reflective practice increases teacher's sense of self-efficacy and job satisfaction, and develops their interpersonal relationships with other teachers. Research on successful novice teachers shows that reflection and efficacy are two important factors related to teacher persistence, retention, and resilience.

Self-efficacy is defined as an individual's "belief or expectation about one's own ability to perform a given task successfully" (eric.ed.gov). Tschannen-Moran and Hoy (2001, p. 783) emphasise that, "teacher efficacy affects the effort the teachers invest in teaching, the goals they set, and their level of aspiration". The work of Tschannen-Moran and Hoy may account for the effect size, $d=1.57$, of teacher efficacy reported by Hattie (visible-learning.org). Nationally certified teachers may play a significant role in supporting

collective teacher efficacy through their investment in improving the quality of teaching to improve student outcomes. Noormohammadi (2014, p. 1380) supports the view that increased efficacy impacts on student outcomes stating "lots of studies showed that student academic achievement, motivation and the students' own efficacy levels are directly related to the teachers' sense of efficacy". The research supports the benefits outlined by AITSL (2017, p. 5) of highly accomplished and lead teachers in Australian schools in achieving better student outcomes.

More widely for the profession the importance of developing teacher efficacy is potentially important in all jurisdictions for reasons beyond student outcomes. The research of Noormohammadi (2014, p. 1380) suggests that reflection and efficacy are two important factors related to teacher persistence, retention, and resiliency in successful novice teachers. Using this it could be considered that systems providing opportunity for teachers to deeply reflect on their practice could assist in human resource management, especially retention. This is all the more pertinent given expected future shortfalls in teacher numbers within Queensland and other states in Australia.

Reflective Practices through Classroom Observation

In exploring the literature on classroom observation, a number of definitions and explanations could be found. The key themes of the research see, for this paper, classroom observation being defined as the purposeful examination of teaching and/or learning events through the systematic process of data collection and analysis against a standard. The research identifies that classroom observation is one of a number of activities that can be used to improve the quality of teaching (Christ, Ayra, and Chiu, 2017, p. 22, Hatch et al, 2016, p. 275, Mashburn et al, 2014, p. 401). These views are supported by AITSL who state publicly "we believe in practice-based classroom observation. That means providing you (teachers) with clear direction for improvement..." (aitsl.edu.au). This strong focus on the improvement of teaching quality underpins all the work of AITSL, including Certification of HAT and LT.

A significant opportunity available to systems is the use of classroom observations. Classroom observations have historically seen an observer sit in one or more classroom sessions where the observer records the teacher's teaching practices (what the teacher is

saying, making, doing and writing), and student actions (what students say, make, do and write), and then meet with the teacher to discuss the observation. Therefore, it is a collaborative reflection process. In this classroom observation model, the teacher being observed and the observer have significant roles before, during and after the classroom observation process. This classroom observation approach is supportive of reflection and well aligned to the existing *Guide to Certification of Highly Accomplished and Lead Teachers in Australia* (2017). Professional discussions required as part of the Stage 2 assessment process during certification involves pre and post observations. The professional discussions provide opportunity for an applicant to reflect on the instructional choices they have made in preparing for a lesson observation, and the post-observation discussion allows for evaluation of what an applicant did and what worked or did not work during the observation. These structured self-reflection opportunities play an important role in teachers' professional growth.

Video use in classroom observation

More recently, advances in technology have pushed video self-reflection to become the norm. Gaudin and Chaliès (2015, p. 42) state "video viewing has been increasingly employed over the past 10 years in the education of preservice teachers and the professional development of in-service teachers". The increasing prevalence of video for classroom observation may be linked to advances in tools and technologies that support videoing of classroom practice. Whilst these tools and technologies may exist, critical is if video-recording is fit for purpose. The Bill & Melinda Gates Foundation 2009-12 Measure of Effective Teaching study found that classroom videos were reliable indicators of teacher quality (k12education.gatesfoundation.org). Likewise, Harvard's Center for Education Policy Research, Best Foot Forward Project (2015, p. 17), states "there were no significant differences in teaching and administrator perceptions of lesson authenticity between those using videos and those being observed in person". This supports researchers including Kleinknecht and Schneider (2013, p. 14) who state video "has the potential to capture reality in an authentic and relevant way". Kleinknecht and Schneider's research goes further highlighting the research of Goldman (2007) and Miller and Zhou (2007) who have identified that video observations provide a vivid secondhand experience of the classroom where viewers can immerse themselves individually in situations from which they can draw multiple connections and achieve a deep level of engagement and involvement. It is this

ability of video observation to engage multiple participants at one time, to reflect analytically on classroom practice, allowing for substantive conversations on pedagogy. Seidel et al (2011) produced empirical evidence that teachers who observed others' video in an individual setting were able to select key incidents and analyse them objectively, further supporting the value of video for observation purposes.

Potential Risks of Video Classroom Observation

In 'Understanding affordances and challenges of three types of video for teacher professional development' Zhang et al (2011) identified two disadvantages for video classroom observations. Firstly, the lack of context provided to support the observer is identified as a drawback to video. The research explains the value of lesson plans, understanding of instruction goals etc. were important. The same research also expressed concern over the capacity of video to capture student interactions as the focus was consistently on the teacher's practice rather than the richness of interactions that occur within the classroom environment. Similarly, Bennett and Barp (2008, p. 565) indicate that some observers felt hampered in their analysis of teacher videos by the "absence of non-verbal information available in the classroom, impacting on, for example, their ability to evaluate the nature of teacher intervention with discussion".

Beyond the risks of video observations there are other considerations that could be seen as potential liabilities for a video observation approach in national certification. Tripp and Rich (2012, p. 682) identify some research where it was reported "teachers often spent more time selecting clips than actually reflecting". This research does pose a potential risk regarding the authenticity of the classroom observations provided by an applicant for national certification.

Further research noted that student behaviour may also change given the recording equipment within the room. Wile (2018) notes that "the results of these observations can often be distorted data". However while Wile notes this as a concern, Bennett and Barp (2008, p. 565) state "in classrooms the learners are almost always aware of the presence of the observer and this can impact on the authenticity or naturalness of the teaching situation". It is worthwhile considering in further research to be conducted on national certification if teachers perceive the assessor being in the classroom has impacted upon the behaviour of students.

While the research does not explicitly identify student privacy as a risk, this is an important consideration for the AITSL and jurisdictions to consider policies and laws in place. Section 426(5) of the *Education (General Provisions) Act Qld 2006* provides that "*personal information* means information or an opinion, whether true or not, about an individual whose identity is apparent, or can reasonably be ascertained, from the information or opinion". This definition largely reflects the definition of personal information in section 12 of the *Information Privacy Act 2009* (IPA). Given a student's identity may be apparent, or reasonably ascertained, from the recording of video observation, careful consideration and action to ensure student privacy will be essential. The DoE advice provided is supported by Harvard's Center for Education Policy Research, Best Foot Forward Project (2015, p. 26) that identifies "maintaining student privacy and clear communications with parents will be a vital part of implementing video observations".

Classroom Observations as part of an effective evaluation system

Whilst there is a significant volume of research on the value of classroom observation for reflective purposes, the National Certification of HAT and LT is an evaluative process. The Bill and Melinda Gates Foundation initiative: The Measures of Effective Teaching (MET) Project, and research by Murphy (2013) and Darling-Hammond et al (2012) identify that classroom observations are an essential part of any evaluation systems. These references commonly reported indicators of good teaching practices, found in standards, are associated with desired acceleration in student outcomes, and hence the importance within evaluation systems. This is supported by the OECD (2009, p. 12) which states "a fair and reliable teacher evaluation model need to reference standards to evaluate teachers relatively to what is considered as "good" teaching. Teaching competences and responsibilities should be listed in order to build a comprehensive definition of what teachers should know and be able to do in the exercise of their profession".

This research conducted by the OECD (2009, p. 3) further states that "effective monitoring and evaluation of teaching is central to the continuous improvement of the effectiveness of teaching in a school". Therefore, designing rigorous and robust evaluation systems that contain a collection of elements that produces measures of individual teachers' instructional quality is essential. The existing process for national certification of HAT and LT does meet this assertion through triangulating multiple data sources to support a robust evaluation system. However research by Hill et al (2012, p. 57) suggests that "day-specific

random variations (eg., students are distracted by an upcoming sport event) exert a strong influence on teacher scores, and that one, two, or even four lessons may not be enough to arrive at the level of reliability needed to inform high-stakes decision". Whilst this may be concerning, the same research by Hill et al (2012, p. 62) later sates "there is no optimal number of observations". Given the lack of research on optimal number of observations in an evaluation system, it is important to consider what international evaluation systems have found.

Conclusion

Many school systems, internationally and nationally, have been characterised by privatised classroom practice and independence in many aspects of a teacher's role. Yet theory and empirical work suggest that peer observation and support—or "de-privatized instruction"—can help improve pedagogical practice. The use of classroom observations, and collegial engagement processes are essential in creating collaborative learning professionals who engage in regular reflective activities.

International research identifies that classroom observations recorded on video provide an authentic and reliable indication of quality teaching. While video means that the observer views the content as a secondhand experience, it is identified in the literature that observers are still able to identify key incidents and analyse them objectively. However, it is also stated in literature that video observation does have potential drawbacks such as a lack of context, the opportunity to select videos and possible adjustments to behaviour. However, the national certification process in Australia controls for these by allowing for context to be obtained through the initial Stage 1 assessment, and pre-and post-observation discussions, and the reference checking. The opportunity to select videos can be controlled through videoing guidelines, for example.

With respect to possible impacts on behaviour of videoing, the national process already involves a visitor to the classroom which can impact student behaviour. In fact if video is often used by the teacher for reflection then it is possible that behavioural changes may not occur due to assimilation by students with the technology.

Finally, there many countries that have evaluation systems. As indicated in the literature, evaluation of teaching is central to continuous improvement. In evaluation systems it is commonplace practice to use classroom observation. This is used for notable example in

the USA, through the National Board for Professional Teacher Standards, where observation is included as a part of a wider collection of elements to produce measures of individual teachers' instructional quality.

The use of videoing for teaching evaluation and observation is an emerging use of technology in the modern classroom and school system. Given the current emergent state of video observation in evaluation systems, research on the use of video in reflection is critical. While national certification is an evaluative process it is important to remember the key principles of certification, one of which is that certification is growth driven. The research is clear that video observations play a critical role in reflection, which is essential to improving practice.

Reference List

Analysis and Policy Observations (2018). *Establishing the National Institute for Quality Teaching and School Leadership.* Retrieved from http://apo.org.au/node/1081

Australian Institute for Teaching and School Leadership (2014). *Australian Institute for Teaching and School Leadership Annual Report 2013-2014.* Retrieved from https://www.aitsl.edu.au/docs/default-source/general/aitsl-annualreport-2014.pdf?sfvrsn=8523e23c_2

Australian Institute for Teaching and School Leadership (2017). *Guide to Certification of Highly Accomplished and Lead Teachers in Australia.* Retrieved from https://www.aitsl.edu.au/tools-resources/resource/guide-to-the-certification-of-highly-accomplished-and-lead-teachers-in-australia

Australian Institute for Teaching and School Leadership. (2017). *Discover trusted strategies to improve classroom practice.* Retrieved from https://www.aitsl.edu.au/lead-develop/develop-others/classroom-observation

Australian Institute for Teaching and School Leadership. (2018). *A snapshot of national certification of highly accomplished and lead teachers (HALTs) in 2017.* Retrieved from https://www.aitsl.edu.au/docs/default-source/comms/certification-snapshot-2017.pdf

Barber, M. & Mourshed, M. (2007). *How the world's best-performing schools come out on top.* Retrieved from https://mckinseyonsociety.com/how-the-worlds-best-performing-schools-come-out-on-top/

Belvis, E., Pineda, P., Armengol, C. & Moreno, V. (2013). Evaluation of reflective practice in teacher education. *European Journal of Teacher Education, 36(3),* 279-292.

Bennett, S. & Barp, D. (2008). Peer observation – a case for doing it online. *Teaching in Higher Education, 13(5),* 559-570.

Bill & Melinda Gates Foundation. (2010). *Learning about teaching: Initial findings from the measures of effective teaching project — report.* Retrieved from http://k12education.gatesfoundation.org/resource/learning-about-teaching-initial-findings-from-the-measures-of-effective-teaching-project-3/

Braun, J. & Crumpler, T. (2004). The Social Memoir: An Analysis of Developing Reflective Ability in a Pre-service Methods Course. *Teaching and Teacher Education, 20(1),* 59-75.

Choi, H. & Park, J. (2016). An analysis of critical issues in Korean teacher evaluation systems. *CEPS Journal, 6(2),* 151-171. Retrieved from https://www.academia.edu/26713639/An_Analysis_of_Critical_Issues_in_Korean_Teacher_Evaluation_Systems.

Christ, T., Arya, P. and Chiu, M. (2017). Video use in teacher education: an international survey of practices. *Teaching and Teacher Education, 63,* 22-35

Deiker, L. & Monda-Amaya, L. (1995). Reflective teaching: A process for analysing journals of preservice educators. *Teacher education and special education, 18(4),* 240-252.

Darling-Hammond, L., Amrein-Beardsley, A., Haertel, E. & Rothsten, J. (2012). *Evaluating teacher evaluation.* Retrieved from https://www.edweek.org/ew/articles/2012/03/01/kappan_hammond.html

Department of Education WA. (2018). *Level 3 Classroom Teacher Program.* Retrieved from http://det.wa.edu.au/careers/detcms/navigation/teachers-and-school-leaders/career-opportunities/level-3-classroom-teacher/

Education Queensland. (2005). *Professional Standards for Teachers.* Retrieved from http://education.qld.gov.au/staff/development/pdfs/profstandards.pdf

Gaudin, C. & Chaliès, S. (2015). Video viewing in teacher education and professional development. *Education Research Review, 16,* 41-67.

Center for Education Policy Research (2015). *Best foot forward: A toolkit for fast-forwarding classroom observation using video.* Retrieved from https://cepr.harvard.edu/video-observation-toolkit

Hatch, T., Shuttleworth, J., Jaffee, A. and Marri, A. (2016). Video, pairs and peers: what connects theory and practice in teacher education. *Teaching and Teacher Education, 59,* 274-284

Hattie, J. (2003). *Teachers makes a difference, what is the research evidence.* Retrieved from https://research.acer.edu.au/cgi/viewcontent.cgi?article=1003&context=research_conference_2003

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* Abingdon, OXON: Routledge.

Hattie, J. (2018). *Hattie ranking : 252 influences and effect sizes related to student achievement.* Retrieved from https://visible-learning.org/hattie-ranking-influences-effect-sizes-learning-achievement/

Hiagh, N. (2000). Teaching teachers about reflection and ways of reflecting. *Waikato Journal of Education, 6,* 87-97.

Hill, H., Charalambous, C. & Kraft, M. (2012). When rater reliability is not enough: Teacher observation sytems and a case for the generalizability study. *Educational Research, 41*(2), 56-64.

Isoré, M. (2009). *Teacher evaluation: current practices in OECD countries and a literature review.* Retrieved from https://files.eric.ed.gov/fulltext/ED530786.pdf

Jaeger, E. (2013). Teacher reflection: supports, barriers and results. *Issues in Teacher Education, 22*(1), 89-104.

Jensen, B. (2012). *Catching up: Learning from the best school systems in East Asia.* Retrieved from http://grattan.edu.au/wp-content/uploads/2014/04/129_report_learning_from_the_best_main.pdf

Katsuno, M. (2010). Teacher evaluation in Japanese schools: an examination from a micro-political or relational viewpoint. *Journal of Educational Policy, 25*(3), 293-307. Retrieved from https://www.academia.edu/7688172/PLEASE_SCROLL_DOWN_FOR_ARTICLE_Teacher_evaluation_in_Japanese_schools_an_examination_from_a_micro-_political_or_relational_viewpoint

Kleinknecht, M. & Schneider, J. (2013). What do teachers think and feel when analysing video of themselves and other teachers teaching? *Teaching and Teacher Education, 33,* 13-23.

Lingard, B., Hayes, D., Mills, M., & Christie, P. (2003). *Leading Learning.* United Kingdom: Open University Press.

Marzano, R., Gaddy, B., Foseid, M., Foseid, M., Marzano, J. (2006). *Classroom management that works.* Moorabbin, VIC: Hawker Brownlow Education.

Mashburn, A., Meyer, J., Allen, J. & Pianta, R. (2014). The effect of observation length and presentation order on the reliability and validity of an observational measure of teaching quality. *Educational and Psychological Measurement, 74*(3), 400-422.

Ministère Education Nationale (2012). *The teacher evaluation system in France.* Retrieved from http://www.sici-inspectorates.eu/getattachment/9e11ce92-9c36-4e1e-af1e-43d305437d7

Murphy, R. (2013). *Testing Teachers: What works best for teacher evaluation and appraisal.* Retrieved from https://www.suttontrust.com/wp-content/uploads/2013/03/MURPHYTEACHEREVALUATION-FINAL.pdf

National Board Professional Teaching Standards (2016). *Component 3: Teaching Practice and Learning Environment, Component 3 at a glance.* Retrieved from https://www.nbpts.org/wp-content/uploads/Component_3_AAG.pdf

Nevada National Board Professional Learning Institute (2017). *National Board Certification Resources.* Retrieved from https://nevadanationalboardnetwork.com/resources/

Noormohammadi, S. (2014). *Teacher reflection and its relation to teacher efficacy and autonomy.* Retrieved from https://ac.els-cdn.com/S1877042814026470/1-s2.0-S1877042814026470-main.pdf?_tid=8bd4292e-0b5e-4ca2-9964-3f101706fa0e&acdnat=1534057819_1867f674cdb00c7fa19018717f01fb95

Organisation for Economic Cooperation and Development (2005). *Teachers matter: attracting, developing and retaining effective teachers, an overview.* Retrieved from http://www.oecd.org/education/school/34990905.pdf

Organisation for Economic Cooperation and Development (2009). *Teacher Evaluation: A conceptual framework and examples of Country practices.* Retrieved from http://www.oecd.org/education/school/44568106.pdf

Queensland Government. (2018). *Delivering quality frontline services.* Retrieved from https://www.queenslandplan.qld.gov.au/gov-response/frontline-services.aspx

Queensland Government. (2006). *Education (General Provisions) Act 2006.* Retrieved from https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2006-039

Queensland Government. (2006). *Information Privacy Act 2009.* Retrieved from https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2009-014

Rand Organsiation (2007). *Analysis of the Assessment System and Impact of Mexico's Teacher Incentive Program "Carrera Magisterial".* Retrieved from https://www.rand.org/pubs/technical_reports/TR458.html

Rowe, K. (2003). The importance of teaching quality as a key determinant of students' experiences and outcomes of schooling. Retrieved from

https://research.acer.edu.au/cgi/viewcontent.cgi?article=1001&context=research_conference_2003

Seidel, T., Stürmer, K., Blomberg, G. Kobarg, M., & Schwindt, K. (2011). Teacher learning from analysis of videotaped classroom situtations: does it make a difference whether teachers observe their own teaching or that of others? *Teaching and Teacher Education, 27*(2), 259-267.

Shewbridge, C., Hulsorf, M., Nusche, D. & Steinus Staehr, L. (2014). *OECD Reviews of Evaluation and Assessment in Education: Northern Ireland, United Kingdom.* Retrieved from
http://www.oecd.org/unitedkingdom/Reviews%20of%20Evaluation%20and%20Assessment%20in%20Education%20Northern%20Ireland.pdf

Tannebaum, R., Hall, A. & Deaton, C. (2013). The development of reflective practice in American education. *American Educational History Journal, 40*(2), 241-259.

Tschannen-Moran, M., Hoy, A. (2001). Teacher efficacy: capturing an elusive construct. *Teaching and Teacher Education, 17*(7), 783-805.

Trapp, T. & Rich, P. (2012). Using video to analyse one's own teaching. *British Journal of Educational Technology, 43*(4), 678-704.

Tripp, T. & Rich, P. (2012). The influence of video analysis on the process of teacher change. *Teaching and Teacher Education, 28,* 728-739.

Victoria State Government. (2017). *Roles and Responsibilities Teaching Service.* Retrieved from *https://www.education.vic.gov.au/hrweb/Documents/Roles_and_responsibilities-TS.pdf*

Zhang, M., Lunderberg, M., Koehler, M., & Eberhardt, J. (2011). Understanding affordances and challenges of three types of video for teacher professional development. *Teaching and Teacher Education, 27*(2), 454-462.

Zwozdiak-Myers, P. (2012). *The teacher's reflective practice handbook: Becoming an extended professional through capturing evidence-informed practice.* New York: Routledge.