

The Limitations of the Common Approach and the Educational Value of Teacher Observation

Adrian Costache

The Limitations of the Common Approach and the Educational Value of Teacher Observation

Adrian Costache ^{a*} 

^a Department of Didactics of the Human Sciences, Faculty of Psychology and Educational Sciences, Babeş-Bolyai University, Cluj-Napoca, Romania

*Corresponding author: adrian.costache@ubbcluj.ro

Abstract

Keywords:

teacher observation, teacher training, limitations of guided observation, pedagogical benefits of free observation, selective attention

The aim of this paper is twofold. In the first part it engages in a critical examination of the common mode of approach to teacher observation from a pedagogical and psychological point of view to determine whether it is suited to the task of teacher training. Our contention is that it is not for it is vitiated by four fundamental limitations which deprive it of any educational value. So, in the second part of the paper it deals with the question whether teacher observation could be reformed, or if it should be abandoned. To answer this question the paper examines the pedagogical benefits of another mode of doing observation, employed in the field of academic development, and it argues that it should be taken as basis for a new model of approach to teacher observation.

1. Introduction: Teacher Observation in Historical Perspective

Teacher observation, also called “(high-)school observation” or “observatory practice”, has been for more than a century one of the main instruments of teacher training around the globe and all this time, it seems (as the literature on this topic is lacking), it was done mainly just one way, derived directly from the task it is supposed to fulfill. The aim of teacher observation is to offer students the opportunity to learn to teach from another teacher’s experience. So, students were asked to attend an experienced teachers’ class for several periods armed with observation protocols meant to draw their attention to those aspects of the teaching performance they ought to take up and emulate in the future.

The number of periods to attend, how the observation protocol is structured, what is to be observed, if the things observed should also be evaluated or not, whether this evaluation is to be backed by examples from class and when will all these be done (during the class observed, right after, or at the end of the semester) – all these vary throughout time and from state to state. In fact, they sometimes vary from university to university and even within the same university from instructor to instructor and from one year to another. But the general mode of approach to observation has always been the same.

This is attested by two guides to teacher observation published more than a century ago in the

United States respectively Great Britain by Guy Montrose Whipple (1908), one of the pioneers of educational psychology, and William Chandler Bagley (1908). Whipple (1908) and Bagley’s (1908) guides are much more comprehensive than the protocols in use today, as they are focused not solely on the performance of the teacher. Whipple’s guide (1908), for instance, is concerned with all significant aspects of school life on all five levels on which it unfolds: (i) pedagogical (concerning the curriculum, the general organization of teaching, and the school schedule); (ii) psychological (regarding student personality, temperament, attention level and interest for what is taught); (iii) moral (dealing with how discipline is enforced and maintained); (iv) sanitary (concerning the hygienic conditions in the school) and, finally, (v) didactic (regarding how classes are taught). In his turn, Bagley’s guide (1908), which was published as an appendix to a treatise on classroom management, is also concerned with corresponding issues such as the general tone of the class, students’ level of attention, class routines and discipline, students and teacher’s mood and class hygiene. Conceived in this way, Whipple (1908) and Bagley’s (1908) guides contain valuable suggestions for improving current programs of teacher observation. But, when it comes to the actual practice of observation, they do not stray away from the general



mode of approach common in our times. Just like the observation protocols in use today, Whipple (1908) and Bagley's (1908) guides rely on long series of questions (Whipple) or questions and prompts (Bagley) meant to draw students' attention to those aspects of the teaching performance considered important.

The longevity of this general mode of approach is surprising in itself. In the academia there are not many things done today as they were done one hundred years ago. But even more surprising is that for all this time this mode of approach to teacher observation has not been subjected to scrutiny to see whether it has any didactic value or not. So far no one seems to have asked whether it can actually fulfill its educational task.

The present paper wants to correct this situation. In the first part we will subject the common approach to teacher observation to a critical analysis from a pedagogical and psychological point of view and we will show that it is vitiated by four limitations which hinder its didactic efficacy. Our analysis will show that, due to the very way it is constituted, teacher observation has no real educational value and can only have a marginal contribution to student teachers' training.

This conclusion rises an unavoidable question. Insofar as the limitations discovered and constitutive to the way observation is commonly approached then, by definition, it cannot be corrected and improved. So, should we keep using teacher observation, or should we abandon it?

This question will be the object of the second part of our paper. There we will show that teacher observation as such need not be abandoned. What needs to be abandoned is the common approach to it based on guided observation. If one renounces this long used approach, teacher observation exhibits multiple pedagogical benefits which attest its value as tool for teacher training.

2. The Limitations of the Common Approach to Teacher Observation

By being simply derived from the task of teacher observation, the didactic efficacy of the common approach to it in both its present and century old iteration seems self-evident. Yet, on closer examination this evidence disappears, and it turns out to be vitiated by a host of problems. Let's tackle them in order.

First off, insofar as it relies on lists of questions – as do Whipple (1908) and Bagley's (1908) guides – or observation items (like the protocols in use today) drawing attention to certain aspects of the teaching performance, the common approach reduces observation to a process of acquaintance with the teaching activity, of no real help for understanding what is happening in class. Students are simply invited to note whether the teacher does what the observation protocol deems important or not, with no concern for the reasons behind her actions or their didactic implications. But precisely this, an understanding of the teachers' actions would enable students to emulate them.

To see the depth of the problem, let's take first some examples from Whipple (1908) and Bagley's (1908) guides. Whipple (1908), for instance, advises students to ask themselves during observation a series of questions concerning the types of activities and the methods used. Did the teacher lecture? Have the students been involved in recitation or drill? Have they been quizzed orally or in writing? Has the teacher resorted a heuristic approach? Has she used inductive or deductive reasoning (Whipple, 1908, p. 9)? In his turn, Bagley (1908) prompts students to pay attention to the sorts of questions employed by the teacher observed. Where they „broad and general or specific and pointed” (Bagley, 1908, p. 289)? But knowing that a teacher has resorted to a certain activity and a specific method for a particular lesson; or knowing that a teacher has approached a subject with broad questions means neither that someone else should, nor that it could do the same. Certain activities might be engaging for certain students and boring to others. The successful use of heuristic methods requires familiarity with the class taught, for, without it, the problems posed might be too difficult or too easy, and students will not be motivated to search for a solution. Broad questions can be conducive of learning just as much as pointed ones. What matters is the context in which they are posed and who they are addressed to. Knowledge of what a teacher has done in a certain period has no real educational value for a student teacher. It gains educational value only insofar as it is accompanied by a clear understanding of the reasons why the teacher chose to do what she did, why she chose the activities, methods, or types of questions she employed. But the common approach to teacher observation is of no help in this regard.

In the same vein, an observation protocol in use in Romania today prompts students to record whether the teacher uses enthymematic, generalizing, cause and

effect, or comparative arguments in class (Secieru, 2007, p. 17)? But, again, if a teacher resorts to a particular type of argument to defend an idea, this does not mean either that it could not be defended otherwise or that the type of argument used is preferable to others.

Or, to take just one more example, another Romanian observation protocol demands to take note if the teacher manifests “distributed attention” and “pedagogic tact” and to measure them on a scale from “insufficient” to “very good” (Pop-Cîmpean, n.d.). But obviously, noticing these qualities in someone does not cultivate them in yourself. Such observation items are simply pointless.

Second of all, the common approach to teacher observation reduces the class, dynamic and multimodal par excellence, to a static perceptive image of no real use for learning to teach. A class is the product a long series of interactions: 1) the teacher’s interaction with the educational content to be taught, with the didactic materials and tools, with the lesson plan, with her students taken individually and with the class as a whole; 2) students’ interaction with the teacher and the educational content taught, with the didactic tools and materials used by the teacher as well as with those reserved for themselves (notebooks, writing instruments, calculators, tablets, books, maps, dictionaries and so on); 3) the interactions between students during team work and those prohibited, appearing when they ought to pay attention or work alone; 4) the interaction between students’ stock of knowledge and the concepts and theories just learned; 5) the interaction between the worldview of the student, shaped by her family and social milieu, and that transmitted through the teacher by the state, the religious order or the foundation financing the school.

In an approach to teacher observation relying on questions or observation items all these interactions and the whole complexity of their interconnections are condensed in a few “stills” of what has happened in class, independent from one another, that students are expected to record and, sometimes, evaluate on various scales such as that mentioned above from “insufficient” to “very good.” Conceived in this way, the observation endeavor erases the ties between the teacher’s communication style, her vocabulary, the educational content discussed, and the teaching methods used. And, at the same time, it abolishes the context of teaching, it displaces any possible context, reducing the entire duration of the class to a few moments, those when the things referred to in the

observation protocol take place, disregarding the fact that these moments were preceded and prepared by others without which they would not have existed. But precisely by discovering that long series of interactions that make up the class and the way in which its moments are bound to one another students will come to learn to teach.

Third of all, the common approach to teacher observation focuses exclusively on what the teacher does, completely neglecting the students. But, regarded in itself, with no concern for what students do, the activity of the teacher lacks coherence, becomes unintelligible and deprived of any educational value. For the teacher’s activity is determined as much by the students’ response as by the lesson plan. Even when we do not want it to be so, the teacher’s input always reflects itself in the behavior of the students, just as their behavior will be mirrored in the teacher’s. In this sense, teaching is a dialectical activity through and through. If the educational objective assumed are to be attained by the end of the class, this dialectical relation must be carefully cultivated on every level the interaction between the teacher – student relation unfolds. One must start working on this relation at the affective level, paying attention to the mood of the students, taken both individually and collectively, and, if needed, trying to improve it; then move to the moral level, of the values brought into play in class by both sides, which require from us to examine the degree to which they are in line with the values of the school and with the educational ideal of the state; and, finally, pass to the intellectual level, of the knowledge and abilities students are supposed to assimilate.

But, along with these three pedagogical limitations vitiating the common approach to teacher observation there is a fourth, psychological one. A line of research begun at the end of the 1960s on visual and auditory perception shows that our attention is selective in nature (see also Neisser & Becklen, 1975; Simons & Chabris, 1999; Simons & Jensen, 2009; Chabris & Simons, 2010, Neisser, 2014). Which means to say that when an individual focuses on one thing, she tends to completely miss others entering her perceptive field, and this even when they are considerable in scale and/or unexpected. As Neisser and Becklen write: “Event perception might be so organized that when a particular structured flow of information is being followed, or a particular representation constructed, the perceiver cannot follow or construct an unrelated one” (Neisser & Becklen, 1975, p. 493).

To test this thesis, at the end of the 1990s, Daniel Simons and Christopher Chablis (Simons & Chabris, 1999) have devised a now famous experiment in which subjects were asked to watch a short video (available online at https://www.youtube.com/watch?v=IGQmdoK_ZfY) and count how many times passes two basketballs a group of five students disposed in a circle. At a certain point, a sixth student dressed in a gorilla costume enters the scene, walks into the center of the circle, which is also the center of the perceptual field, pounds his chest several times and leaves. Simons and Chablis's study shows that, despite its conspicuousness, the gorilla remains unnoticed for more than 40% of the subjects (Simons & Chabris, 1999, p. 1068). And it also shows that, in general, the more unexpected such a perceptive event is, the higher the chances for it to remain unnoticed (Simons & Chabris, 1999, p. 1070).

If the first three pedagogical limitations were showing that the common approach to teacher observation is simply unsuited for the task, this fourth, psychological, limitation suggests that it condemns observation to be a failed learning endeavor. For, insofar as guided observation leads to "inattentional blindness" (Mack & Rock, 1988) and the "disappearance" (Kolers, 1969, as cited in Neisser & Becklen, 1975, p. 481) of any unexpected events from the perceptive field, the observer will be deprived of the possibility to revisit later her experience in class and draw any didactic insights from it. The time spent doing guided observation is emptied by the very way it is conceived and undertaken of the content that might serve as basis for learning.

Now, considering that these four limitations are constitutive to the common approach to teacher observation it is obvious that they can never be surmounted. In this case, should teacher observation be abandoned?

3. The Educational Value of Teacher Observation

In our opinion, it is not teacher observation as such that needs to be discarded, just the common approach to it. Even though it was used for more than one hundred years, it is not the only one possible. Observation can be guided, but also free. The observer can follow a protocol, but also her own interests. And such free observation appears to have all the didactic benefits needed for it to be a suitable instrument for teacher training. This becomes apparent if we turn our attention to a neighboring field, that of academic development.

In the last thirty years, under pressure to offer high quality education to an ever-larger student population, there have appeared various programs of peer training, monitoring and/or evaluation of instructors in which free observation plays a central role among other things (see in this sense Martin & Double, 1998; Bell, 2001; Bell & Mladenovic, 2008; Harris et al., 2008; Hendry & Gary, 2012; Sullivan et al., 2012; Harper & Nicolson, 2013 și The Centre for Teaching Support and Innovation, 2017). In time, these programs have been subjected to scrutiny and so it has become apparent that they have multiple pedagogical benefits which testify to their educational value. Three studies in particular are of interest for us in this context because they attest a direct correlation between the educational value of the program studied and its observational component, thereby showing that free observation can be assumed as foundation for a new approach to teacher observation to be used in initial teacher training.

The first study was done by Maureen Bell (2001) between 1997 to 1998 and it deals with a teaching development program offered by an Australian university. In this program participants are asked to pick an experienced colleague whom they trust to go together through four cycles of planning – teaching/observation – feedback and reflection. In three of these four cycles the participants in the program teach, while the support colleague observes, and in the fourth the roles are reversed. In the end, the participants submit a written report in which they analyze what they have learned, the strengths and weaknesses of their teaching performance and the efficacy of the program. Maureen Bell's study (2001) involved 28 subjects and it relied on a qualitative, interpretive methodology. An analysis of the final report submitted makes five things manifest: 1) that the program is effective in developing the participants pedagogic ideas and skills; 2) that it has positively impacted their teaching; 3) that it has boosted their self-confidence; and 4) that it has improved collegiality; and 5) that it has motivated them to seek ongoing development of their pedagogical competence. For us, it is important to note that two participants link two of these benefits directly to the observational component of the program (Bell, 2001, p. 34). One of the participants writes:

"I have benefited enormously from observing [the support colleague's] class because I saw how he emphasized student comfort and participation and the positive outcomes of these states on student learning and self-esteem" (Bell, 2001, p. 34).

And the other one notes:

“... to critically observe another person’s use of these techniques makes their impact a lot clearer... it has also highlighted a few areas where I could improve my own use of these techniques” (Bell, 2001, p. 35).

Of course, the fact that 2 participants out of 28 attribute the pedagogical benefits of the program to its observational component can hardly be taken as proof for the fact that free observation should be assumed as ground for a new approach to teacher observation. And this, all the more that neither of them ties both of these benefits to it. But, nevertheless, Maureen Bell’s (2001) conclusion must be retained as it will be reenforced by the two other studies mentioned.

The second study of interest in this context dates from 2005 and was done by Amani Bell and Rosina Mladenovic (Bell & Mladenovic, 2008) who dealt with a professional development program for adjunct professors in use at the Faculty of Economics and Business at the University of Sydney. The program relied on peer observation of teaching and self-reflection and span for the duration of a semester. The program also involved three training sessions on: i) lesson planning, activities to do in class and setting adequate expectations; ii) the results of peer observation; and iii) how to give feedback during and after the class observed.

In contrast to the program previously mentioned, in this case observation was not entirely free, but neither was it guided by questions and specific observation items as is the case in the common approach. The guidance was offered by the student feedback form for instructors which approaches teaching in general terms, not singling out any of its specific aspects and calling for an analysis of what has happened throughout the semester. The form contains statements such as “The tutor encouraged students to actively participate in the tutorial.” or “The tutor’s feedback helped students to learn.” (Bell & Mladenovic, 2008, p. 750).

Bell and Mladenovic’s study (2008) involved 52 participants who signed up voluntarily to the program, but only 32 have agreed to the publication of the results. As in the previous studies a qualitative methodology was used, which involved an interpretive analysis of the opinions of the participants collected from the observation forms, through discussions during the three training sessions, and a through survey and a focus group held at the end of the semester.

Bell and Mladenovic study (2008) confirms Maureen Bell’s conclusion (Bell, 2001), but it also uncovers something highly relevant. It shows that the educational value of the program springs above all from observation rather than its other components such as the feedback given and received by the participants or the three training sessions. When asked: “Have you found this to be a valuable exercise? Provide reasons for your answer.” 30 out of 32 subjects respond in the affirmative and, to motivate their answer, the majority invokes that the possibility to observe how colleagues teach will improve their academic performance. Just 2 out of 30 participants consider the program valuable because of the feedback received and only one because of the opportunity to give it.

The third study that deserves to be mentioned has been undertaken by Graham D. Hendry and Gary R. Oliver (Hendry & Gary, 2012). Its significance in this context springs from the fact that it builds a bridge between the two studies previously mentioned. On the one hand, it confirms Bell and Mladenovic’s conclusion (2008) that observation has a higher educational value than the feedback given and received or any other component of such a program (Hendry & Gary, 2012). And, on the other hand, it confirms and further details the benefits of observation identified by Maureen Bell (2001).

Hendry and Gary’s study (2012) focuses on a teacher development program offered by a large comprehensive university from Australia once again. The program consists of three modules, and it spanned two semesters. The first module, taking place in the first semester, was an introductory course to pedagogy and didactics. In the second module the participants chose a partner and go together alternating the roles through several cycles of peer observation followed by feedback sessions. And during the third module the participants do a project on university teaching and learning.

Hendry and Gary’s study (2012) was undertaken in 2008 with 9 subjects as a 30-minute semi-structured interview on the perceived utility of peer observation and the ways in which this experience was later used. By analyzing the transcripts of these interviews, the authors have identified three clear benefits of observation.

First of all, for 8 out of the 9 subjects observation led to the acquisition of new teaching strategies and boosted their confidence in their ability to use them successfully. For this, the possibility to see how

students respond to the input of the teacher and to follow in real time the dynamic of the teacher-student relation played a crucial role (Hendry & Gary, 2012, p. 6). We find here a confirmation of the connection between observation and the first benefit of the program identified by Maureen Bell (2001). But, in contrast to Bell, Hendry and Gary (2012) attest a connection also with the third benefit she identifies.

Second of all, Hendry and Gary (2012) report that for some participants observation confirmed the efficacy of their teaching style. In this sense a remark made by one of the participants is highly suggestive:

“[I] could see the class listening intently when she would give personal examples, and I have always tried to do that anyway, but I thought, yeah, that works too... just confirming, yeah, I am doing the right thing” (Hendry & Gary, 2012, p. 6).

This conclusion further details the connection between observation and the third benefit of the teaching development program identified by Maureen Bell.

Third of all, Hendry and Gary (2012) report that observation reveals what is difficult to do in class. In this sense it functions as a tool for calibrating instructors' expectations from themselves and their students. In connection with a peer's teaching style one of the participants observes:

“[it] was... like a lot of energy, maybe that's not my personality you know... that style of teaching... it's almost like a motivational talk, like you can feel the energy in the room... I think I can be enthusiastic but I don't think I could match that” (Hendry & Gary, 2012, p. 6).

And another participant, who usually taught large classes, observes after a lecture held to a small number of students: “I can't teach like that [in a large lecture]... I really wish I could but I can't” (Hendry & Gary, 2012, p. 5).

Considering these studies attesting the educational value of free observation it becomes apparent that teacher observation should not be abandoned. Rather, it should be reformed taking free observation as its ground.

4. Conclusion

In the present paper we have subjected the common approach to teacher observation to a critical analysis from a pedagogical and psychological point of view and we have showed that it is marked by four constitutive limitations. First of all, it invites students

simply to get acquainted with the teaching performance, not to analyze and understand it. Second of all, it reduces the class, dynamic in nature, to a series of static scenes disconnected from one another. Third of all, it focuses exclusively on the teacher and completely misses students' response to what the teacher does. And fourth of all, insofar as the observation protocols used direct students' attention to specific aspects of the teaching performance, they deprive them of the possibility to see in a perspective what is happening in class, thereby depriving them of the opportunity to learn to teach.

In view of these limitations the common approach to teacher observation cannot be corrected and improved. But this, however, does not mean that teacher observation itself should be excluded from the arsenal of teacher training tools. For there are other ways of doing it. Observation can also be free, not only guided. And free observation appears to offer those pedagogical benefits needed for it to be used in teacher training. To prove this, in the second part of the paper we turned our attention to a neighboring field, that of academic development, which relies heavily on free observation and where its educational value has been closely scrutinized. So, we showed that free observation has all the pedagogical benefits that make it a useful tool for teacher training.

Authors note:

Adrian Costache is assistant professor in the Department of Didactics of Human Sciences at Babeş-Bolyai University. He is the author of two books—*Gadamer and the Question of Understanding: Between Heidegger and Derrida* (Lexington Books, Lanham, MD (USA), 2016) and *Înțelegere, tradiție, neînțelegere: O interpretare critică la Adevăr și metodă [Understanding, Tradition, Misunderstanding: A Critical Interpretation of Truth and Method]* (Institutul European, Iași, 2012)—and of numerous articles on modern and contemporary philosophy and didactics. He is also the editor of the collection *Heteropedagogies* published by Idea Design + Print between 2017-2019 and the translator, among others, of Ivan Illich's *Deschooling Society* and Everett Reimer's *School Is Dead*.

References

Bagley, W. C. (1908). *Classroom Management: Its Principles and Technique*. London: Macmillan & Co.

- Bell, A., & Mladenovic, R. (2008). The Benefits of Peer Observation of Teaching for Tutor Development. *Higher Education*, 55, 735–752. <https://doi.org/10.1007/s10734-007-9093-1>
- Bell, M. (2001). Supported Reflective Practice: A Programme of Peer Observation and Feedback for Academic Teaching Development. *International Journal for Academic Development*, 6(1), 29–39. <https://doi.org/10.1080/13601440110033643>
- Centre for Teaching Support and Innovation. (2017). Peer Observation of Teaching: Effective Practices. Centre for Teaching Support and Innovation, University of Toronto. <https://www.usca.edu/media/usca/departments/academic-affairs/complaints/peer-observation/Peer-Observation-of-Teaching-Guide.pdf>
- Chabris, C. F., & Simons, D. J. (2010). *The Invisible Gorilla and Other Ways Our Intuitions Deceive Us*. New York: Crown.
- Harper, F., Nicolson M. (2013). Online Peer Observation: Its Value in Teacher Professional Development, Support and Well-Being. *International Journal for Academic Development*, 18(3), 264–275. <https://doi.org/10.1016/j.tate.2022.103901>
- Harris, K. L., & Farell, K., & Bell, M., & Devlin, M., & James, R. (2008). *Peer Review of Teaching in Australian Higher Education: A Handbook to Support Institutions in Developing and Embedding Effective Policies and Practices*. Centre for the Study of Higher Education, The University of Melbourne & Centre for Educational Development and Interactive Resources, University of Wollongong. https://vuir.vu.edu.au/37547/1/PeerReviewHandbook_eVersion.pdf
- Hendry, G. D., & Gary, O. R. (2012). Seeing Is Believing: The Benefits of Peer Observation. *Journal of University Teaching & Learning Practice*, 9(1), 2–11. <https://doi.org/10.53761/1.9.1.7>
- Kolers, A. P. (1969). Voluntary Attention Switching between foresight and hindsight, *Quarterly Progress Reports. Research Laboratory of Electronics*. M.I.T., 92, 381–385.
- Mack, A., & Rock, I. (1988). *Inattentional Blindness*. Cambridge: MA: MIT Press.
- Martin, G. A., & Double, J. M. (1998). Developing Higher Education Teaching Skills Through Peer Observation and Collaborative Reflection. *Innovations in Education and Training International*, 35(2), 161–170. <https://doi.org/10.1080/1355800980350210>
- Neisser, U. (2014). *Cognitive Psychology: Classic Edition*. New York: Psychology Press.
- Neisser, U., & Becklen, R. (1975). Selective Looking: Attending to Visual Specified Events. *Cognitive Psychology*, 7(4), 480–494.
- Pop-Cîmpean, A. (n.d.). *Fișă de Observare a Lecției* [Lesson Observation Sheet]. https://www.academia.edu/3819398/fisa_observatie_model_1.
- Secieru, M. (2007). *Portofoliu de Practică Pedagogică Pentru Studenții Facultăților de Științe Umaniste* [Pedagogical Practice Portfolio for Students of the Faculties of Humanities]. https://www.academia.edu/11108472/Portofoliu_de_practica_pedagogica_pentru_studentii_Facultatii_de_Litere
- Simons, D. J., & Chabris, C. F. (1999). Gorillas in Our Midst: Sustained Inattentional Blindness for Dynamic Events. *Perception*, 28(9), 1059–1074. <https://doi.org/10.1068/p281059>
- Simons, D. J., & Jensen, M. S. (2009). The Effects of Individual Differences and Task Difficulty on Inattentional Blindness. *Psychonomic Bulletin & Review*, 16(2), 398–403. <https://doi.org/10.3758/PBR.16.2.398>
- Sullivan, P. B., & Buckle, A., & Gregg, N., & Atkinson, S. H. (2012). “Peer Observation of Teaching as Faculty Development Tool.” *Medical Education*, 12(26), 1–6. <https://doi.org/10.1186/1472-6920-12-26>
- Whipple, G. M. (1908). *Guide to High-School Observation*. Syracuse, NY: G. W. Bardeen Publisher.