

# Factors' Influencing Users' Perceptions on Workplace-Based Formative Assessment

## A Grounded Theory Study

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### ABSTRACT

Workplace-based formative assessment (WBA) has met with mixed reactions from users in postgraduate medical education. Users' perceptions about WBA tend to be negative. Consequently, its learning value has yet to reach its full capacity. In this study, we explored which factors influence users' perceptions about formative WBA. We conducted a constructivist grounded theory study with focus groups in the interuniversity General Practitioners' Training in Flanders. Focus groups were administered online and asynchronous due to COVID-19. The main questions of the focus groups were open-ended. In total, 3 homogeneous focus groups with trainees (n=6), trainers (n=7), and supervisors (n=9) took part in this study. Data analysis followed the stages of open, focused, and axial coding. Three predominant categories of factors were identified in the data: (1) users' engagement and agency in the assessment progress, (2) users' conceptualization about their own role in the curriculum, and (3) users' trust and their relationship with each other. These categories are interrelated in a mutual way. Negative users' perceptions were more prevalent, when users faced barriers in one of these three categories. By mapping the factors influencing users' perceptions, our findings might facilitate changing the negative perceptions about workplace-based formative assessment and improve its educational value in medical curricula.

**Keywords:** *General Practice, Postgraduate education, Formative assessment, Workplace-based assessment.*

### 1. INTRODUCTION

Workplace-based assessment (WBA) has been the centre of attention in medical education research for the last decades. The need of accountability towards the general public and ensuring clinical competence has led medical educators to tailor assessment methods for the clinical workplace [1]. These methods are the means to assess the upper level of Miller's Pyramid [2]. The purpose of these assessment methods is to support trainees' learning development by providing consistent and timely feedback [3].

After years of evolution, WBA comprises a wide range of tools that aim at evaluating different aspects of clinical competence at the workplace [3]. (3) Although implementation of WBA varies among medical curricula

across the world, the need for competency-based medical education and for establishing tools for professional development necessitates its rapid expansion [4].

Albeit some evidence about WBA reliability and validity, its impact on trainees' performance has yet to be proved [5, 6]. Besides methodological rigour, WBA has been also criticized for not fulfilling its educational purpose [7]. Users' perceptions tend to be negative characterizing it as a bureaucratic burden rather than as a learning tool [8, 9]. This negativity mainly stems from three different problems: misunderstanding of WBA purposes, lack of time, and poor trainers' engagement [8]. The realisation that prevalence of negative users' perceptions potentially influence WBA effectiveness makes exploring the influencing factors compelling. Therefore, the aim of this study was to explore which

factors influence trainees, trainers, and supervisors' perceptions regarding workplace-based formative assessment.

## 2. METHODS

### 2.1 Data collection

We employed a qualitative study with focus groups following a constructivist grounded theory approach. We conducted online focus groups because of the measures against the spreading of COVID-19. Since our study population was medical professionals, we chose an asynchronous approach to conduct the focus groups. Asynchronicity provided the necessary flexibility to our study participants without hindering their clinical practice [10, 11]. In addition, the asynchronous mode allowed participants their anonymity by using pseudonyms. Anonymity allowed discussing and disclosing sensitive issues affecting WBA [11].

To collect the data, we used an online software called FocusGroupIt. This tool allowed participants' anonymity, since participants could use and respond with a pseudonym. The focus groups lasted from 2 to 3 weeks each. Questions were posted online by the moderator, while enough time was given to the participants (approximately 3 days per set of questions) to respond to the questions and interact with each other. Reminders were sent if the moderator thought it was necessary. When more clarifications were required, sub-questions were posted to delve more in depth and elucidate participants' reactions. Data collection and data analysis took place between June 2020 and October 2020. The main researcher moderated the focus groups, while the principal investigator participated as observer to monitor the process. To ensure consistency of data collection, the research team discussed the different procedures before each focus group. The main questions were open-ended and focused on workplace-based formative assessment: (1) What does the term formative assessment mean for you?, (2) How would you describe a workplace-based formative assessment?, (3) How would you describe the relationship between trainee and trainer during WBA?, (4) What do you think that fosters and hinders WBA in a GP practice?.

To facilitate the focus groups and to guarantee an adequate sample size, we set a minimum of 6 and a maximum of 8 participants per group [11, 12]. We chose homogeneous instead of heterogeneous focus groups to give the freedom to the participants to express freely their opinion, and to avoid potential power relationships influencing participants' opinions [12]. The participants were divided into different focus groups based on their role in the General Practitioner's (GP) Training: trainees, trainers, and supervisors.

### 2.2 Participants

All participants had at least one year of experience with workplace-based assessment. Trainees were either at the end of the second or the third year of the GP Training. Trainers were the workplace-based trainers that supported learning in the clinical workplace, while supervisors were university-based trainers that supported learning in a small group of trainees. Participation in the focus groups was voluntary. To map and identify factors influencing WBA from different perspectives, we used a theoretical sampling strategy to recruit participants.

Our study participants were stakeholders in the GP Training of the interuniversity curriculum of General Practice, in Flanders, Belgium. The GP Training is a 3 years postgraduate curriculum, where trainees must take a series of workplace-based assessments during their GP internship. These assessments take place on a regular basis. At the clinical workplace, trainees often discuss patients' cases with their trainers for feedback purposes. In addition, trainers should observe their trainees conducting a consultation once per month to evaluate history taking, physical examination, and communication skills. Besides the workplace-based trainers, university-based supervisors also support trainees in student groups. The aim of these groups is to provide multisource feedback and intervision to the trainees twice per month.

### 2.3 Data analysis

The coding process was done by two researchers separately [13]. Discrepancies in coding were discussed until consensus was reached. After a third researcher was advised, a codebook was developed. To analyze the data, we used NVivo QSR International (Release 1.0). Following constructivist grounded theory, memos were firstly written before the coding started [14]. The coding process happened in three phases. During initial coding, we focused on small units of analysis, coding line-by-line [14]. During focused coding, we focused on frequent earlier codes to navigate through the data, and we discerned initial codes with the most analytical strength [14]. During axial coding, we focused on relations between categories and subcategories of codes [14].

## 3. RESULTS

Three online asynchronous focus groups were conducted (n=21), one with trainees (n=6), one with trainers (n=7), and one with supervisors (n=9). In alignment with the GDPR policy, only the sex of the participants was asked (Man/Woman). The results indicate that three factors affect how users perceive WBA: (1) users' conceptualization about their own role in the curriculum, (2) users' engagement and agency in the assessment process, (3) users' trust and their relationship with each other. These factors should be

considered as intertwined and mutually dependent. Figure 1 graphically depicts the different factors influencing users' perceptions about WBA.

### ***3.1 Users' conceptualization about their own role in the curriculum***

Users' conceptualization about their own role in the curriculum has an impact on how WBA is perceived. Trainees and trainers agreed that WBA was highly valuable in order to provide feedback for further development. Trainees felt highly involved in WBA, since it helped them with receiving feedback and progressing in their learning development. A workplace evaluation can encourage giving feedback because of nothing attached to it. It is possible to speak openly about the learning objectives and working points, without any consequences attached to them...I think that a trainee grasps every feedback opportunity to become a good GP (trainee 1).

Trainers also perceived their role as highly important for trainees' development. WBA was seen as a safe and continuous way of providing feedback in order to help the trainee to become a better doctor. In my view, the term (WBA) means the same as "giving feedback in a non-evaluative way". This is essentially the cornerstone of being a trainer for me. On the one hand this is not easy (giving feedback in a safe way), but on the other hand very important for a doctor in training. I personally think WBA is more important than high stakes (exams) (trainer 2).

However, supervisors did not view WBA as necessary process for providing feedback. Opposed to trainees and trainers, supervisors perceived WBA as a way to construct a comprehensive idea about trainees' clinical competence. This idea assisted them in summative evaluations. As a supervisor, you note trainees' reactions and answers and you gradually build an image of how these trainees function, but I do this 'instinctively, intuitively'. I don't note this anywhere, it continuously builds up on its own throughout the year. Then I use this idea for the final evaluation (supervisor 4).

### ***3.2 Users' engagement and agency in the assessment progress***

Workplace-based formative assessment was also influenced by users' engagement and agency in the assessment progress. Trainees' ability to influence their own assessment process was a decisive element affecting how they perceived assessment at the workplace. Trainees emphasized the importance of their agency in WBA. When they felt comfortable to ask feedback about specific aspects of their performance at the workplace, they would request a more frequent evaluation.

In my first year as a trainee, I was at a clinical practice with a non-flexible trainer. It was often difficult to work

with and to ask an evaluation from him, because everything had to go as he demanded it (trainee 4).

Trainees also argued that, when their trainers seemed more available, the more frequent they would ask for an evaluation at the workplace. I can always ask my trainer to come and observe a consultation, when I am in doubt. The trainer is always available (trainee 2). This time investment and engagement was mentioned by trainers as well. Going a step forward, trainers thought that by engaging in WBA were establishing good collegial relationships as well. An indispensable condition for this (WBA) is that there is enough time invested in establishing a constructive relation between trainer and trainee (trainer 1).

For supervisors, this engagement in the assessment process was slightly different. They viewed their role in WBA as a bridging actor between clinical practice and official curriculum. They would use case-based discussions to assist trainees with their learning trajectory and to control whether workplace-based learning and assessment takes place. As a supervisor, you evaluate how trainees' her learning process is going, whether or not workplace assessment is happening properly, and whether the trainees' learning process is moving in the right direction (supervisor 6).

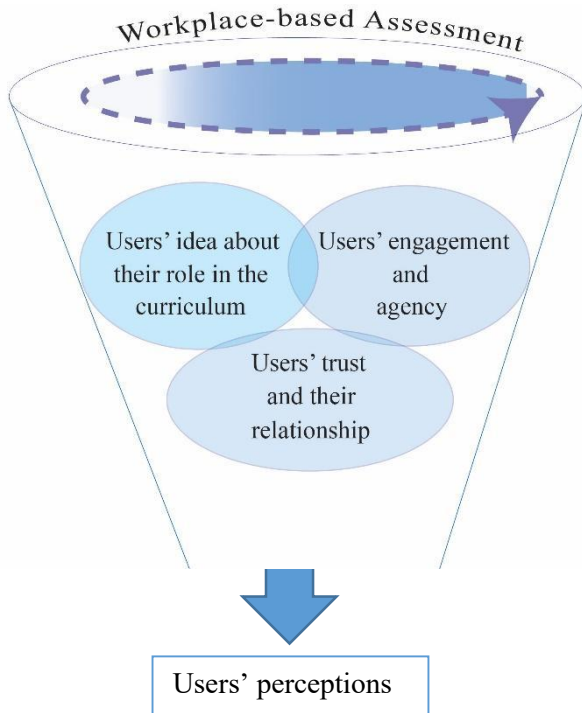
### ***3.3 Users' trust and their relationship with each other***

All different participants argued that trust and their relationship with each other influences on perceptions about WBA. Trainers asserted that a relationship based on trust, equality, and mutual understanding between trainer and trainee is a prerequisite for a successful implementation of WBA. a trust relationship (is important) with your trainee where he feels it is ok to ask questions and to discuss different issues that he is struggling with (trainer 2).

Collegial trust and being treated as equal were also two important aspects for trainees as well. In their relationship with their trainers, trust created a culture of openness and safety where everything could be discussed. Mutual trust and equality facilitated, on the one hand, trainees to require more WBA from their trainers, and, on the other hand, trainers to provide more meaning feedback. That (trust) depends very much on which GP practice you are working. In the practice where I was during my first year, there was a very hierarchical relationship and, during WBAs, it was discussed what my trainer wanted to discuss and that was often one point that he did not like and everything else was not discussed. In the practice where I am now, we are on the same level. Everything is negotiable, everyone is flexible (trainee 5).

Trainees also valued trust in their relationship with their supervisor. Being able to openly pose any questions contributed to trainees' safety feeling, and, subsequently, to further development. The supervisor also helps you to develop further. At the moment I have a supervisor who works in a very coaching way without passing judgment. Everything is negotiable and I really get a lot out of the student group (trainee 1).

Lastly, supervisors agreed that the condition of trust is of great importance for WBA. Most supervisors mentioned that it was their responsibility to establish this trust relationship, first, in their student groups, and, secondly, if necessary, between trainer and trainee. The more open this relationship was perceived, the easier was for supervisors to detect gaps in trainees' competence.



**Figure 1** Factors' influencing users' perceptions about WBA.

**4. CONCLUSION**

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**AUTHORS' CONTRIBUTIONS**

The authors designed the study. VA collected the data and conducted the analysis. SP analysed the data as second coder. SP and BS controlled and ensured quality of data analysis. SP, BS, and JE critically revised this manuscript.

**ACKNOWLEDGMENTS**

First, we would like to thank the Flemish Research Foundation for funding this study through the SBO SCAFFOLD project. We want to thank Dr. Mieke Embo and Prof. Dr. Martin Valcke for allowing us to be a part of this project. In addition, we would like to acknowledge the contribution of Dr. Anissa All and Ms. Sofie Van Ostaeyen that assisted moderating the focus groups. Lastly, we thank our participants for participating in this study during the COVID-19 pandemic.

**REFERENCES**

- [1] C.P.M. Van Der Vleuten, The assessment of professional competence: Developments, research and practical implications, *Advances in Health Sciences Education*, 1996, 1 (1), pp. 41-67.
- [2] G.E. Miller, The assessment of clinical skills/competence/performance, *Acad Med.* 1990, 65 (9 Suppl), pp. S63-7. DOI : 10.1097/00001888-199009000-00045
- [3] J. Norcini J, V. Burch, Workplace-based assessment as an educational tool: AMEE Guide No. 31, *Medical Teacher*, 2007, 29 (9), pp. 855-871.
- [4] C.P. van der Vleuten, E.W. Driessen, What would happen to education if we take education evidence seriously?, *Perspectives on medical education*, 2014, 3 (3), pp. 222-232.
- [5] D.J. Murphy, D.A. Bruce, S.W. Mercer, et al., The reliability of workplace-based assessment in postgraduate medical education and training: a national evaluation in general practice in the United Kingdom, *Advances in Health Sciences Education*, 2009, 14 (2), pp. 219-232.
- [6] A. Miller, J. Archer, Impact of workplace based assessment on doctors' education and performance: a systematic review, *BMJ*, 2010, 341, c, pp. 5064.
- [7] A. Barrett, R. Galvin, A.J. Scherpbier, et al., Is the learning value of workplace-based assessment being realised? A qualitative study of trainer and trainee perceptions and experiences, *Postgrad Med J*, 2017, 93 (1097), pp. 138-142.
- [8] J. Massie, J.M. Ali, Workplace-based assessment: a review of user perceptions and strategies to address the identified shortcomings, *Adv Health Sci Educ Theory Pract*, 2016, 21 (2), pp. 455-473.
- [9] S. Menon, M. Winston, G. Sullivan, Workplace-based assessment: attitudes and perceptions among consultant trainers and comparison with those of trainees, *The Psychiatrist*, 2012, 36 (1), pp. 16-24.

- [10] M. Zwaanswijk, S. van Dulmen, Advantages of asynchronous online focus groups and face-to-face focus groups as perceived by child, adolescent and adult participants: a survey study, *BMC Research Notes*, 2014, 7 (1), pp. 756.
- [11] S. Williams S, M. Giatsi Clausen, A. Robertson, et al., Methodological reflections on the use of asynchronous online focus groups in health research, *International Journal of Qualitative Methods*, 2012, 11, pp. 368-383.
- [12] R.E. Stalmeijer, N. McNaughton, W.N.K.A. Van Mook, Using focus groups in medical education research: AMEE Guide No. 91, *Medical Teacher*, 2014, 36 (11), pp. 923-939.
- [13] D.S. Triangulation (Ed.), *The use of triangulation in qualitative research*, Oncology nursing forum, 2014.
- [14] K. Charmaz, *Constructing grounded theory: A practical guide through qualitative analysis*, SAGE Publications, London, Thousand Oaks, New Delhi, 2006.