

Vygotsky and Wittgenstein on Appropriate Feedback

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Abstract

This paper explores the contrasting perspectives on feedback in language acquisition through an examination of the theories of Ludwig Wittgenstein and Lev Vygotsky. Wittgenstein, a renowned philosopher, and Vygotsky, a prominent psychologist, have independently contributed to the understanding of language development and the role of feedback in shaping cognition. This comparative analysis delves into the philosophical underpinnings of their respective approaches, examining the influence of language games in Wittgenstein's philosophy and the socio-cultural context in Vygotsky's theory. The paper evaluates the implications of their ideas on feedback mechanisms, emphasizing the nuanced interplay between individual cognitive processes and social interactions. By synthesizing insights from these two influential thinkers, this paper aims to contribute to a more comprehensive understanding of feedback in language acquisition and its broader implications for education and cognitive development.

Introduction

While language learning, similar to learning in general, has and continues to be viewed in numerous different ways. This includes, but is not restricted to, behaviorism, cognitivism and constructivism. Each of these theories have important repercussions on how learning is best facilitated. This paper takes, as a starting point, a social constructivist perspective on learning and by extension second language acquisition. It assumes that language learning oc-

curs through the same forces that drives all learning, namely the need for the individual to make sense of, and belong to, the world they are surrounded by. It further assumes that learning is best done through the resources available to the individual, namely through their interaction with society and its members. It begins with a brief exploration of constructivism, and the role feedback plays in it. It then briefly examines the research findings supporting the use of more formative forms of feedback in learning. This is followed by a consideration of the theories of two noted educational philosophers, and a critical examination of how their ideas add further intellectual support for a social constructivist theory of learning, and by extension the use of more formative feedback.

Constructivism

Constructivism, as a theory of learning, is generally attributed to Piaget. This theory emerged through Piaget's study of how children develop. According to Piaget, learning is a gradual, additive process in which the learner builds understanding by comparing prior and current experience and in doing so make sense of their environment (Ginsburg, 1969). Accordingly, learning is a largely individual experience in which new data is processed through the processes of accommodation or assimilation in further development of an individual's understanding of their surroundings. This learning then becomes the basis for subsequent understanding.

Social Constructivism

Social constructivism, in contrast to constructivism, posits that most learning occurs primarily through social interaction, not through the learner's cognitive processes. Language is the primary mode and source of learning for social constructivists. It provides information, facilitates access to available social resources, and in doing so shapes cognition. Learning is influenced by those who the learner interacts with and the society in which that interaction takes place. Learning is also mediated by resources available within that society such as language, logic, mathematical systems and even technology. Language provides the means by which the learner can access

all the available resources.

General Factors that Influence Learning

From a social constructivist perspective, language learning occurs through the learner's interaction with the surrounding environment. As the learner develops, other variables that may mitigate learning such as motivation, self-concept/ image and personality, also develop. These factors, while important to learning in general, are difficult to alter in conventional language classes making them of less interest to the educator. The learning environment itself, including as it does the teacher, the classroom and other students is more accessible and amenable to change, and as such will be the remit of this paper. Within the classroom environment, the factor most amenable to change is the teacher, and more specifically how the teacher interacts with students (Hattie, 2003). Effective teacher-student interaction, in keeping with its importance in learning, will therefore be focus of this paper.

Teacher-Student Interaction and Feedback

Feedback is widely regarded as a significant influence on learning and achievement (Hattie, 2009), though its effect is variable (Kluger & DeNisi, 1996). However, as Wittgenstein makes clear in the *Philosophical Investigations* (Wittgenstein & Anscombe, 1972), before any word, including feedback, can be understood it needs to be defined. Researchers working in the Social-Sciences agree. Ramaprasad (1983) noted feedback “is a term that has been adapted to a multitude of technical, philosophical and educational settings and so requires defining” (p.4).

Defining Feedback

(Scriven, 1967) saw feedback as multidimensional, and made the distinction between summative and formative evaluation/ feedback. Summative assessment, such as a test result, according to Scriven provided only information about accuracy. Formative assessment however, he argued, was summative assessment combined with feedback. While somewhat simplistic, this early definition of feedback illustrated a point many researchers would

return to: feedback was essentially information the student could use for learning. Addressing written feedback ten years later (Kulhavy, 1977), made the observation that feedback was not a binary concept, but rather a broad a continuum of interaction ranging from a simple confirmation or rejection at one extreme, through error correction, to a more and more elaborate response that, in its most extreme form, becomes indistinguishable from instruction. (Sadler, 1989) further refined Kulhavy's definition: "Feedback is a key element in formative assessment and is usually defined in terms of information about how successfully something has been or is being done." (p.120). He was also one of the first researchers to acknowledge feedback may be of benefit to both teacher and student because it works in both directions; from teacher to student, and from student to teacher. A concept that is supported in both Wittgenstein's and Vygotsky's writing. These definitions integrated into a social constructivist perspective result in Winne & Butler's (1994) widely cited summary of formative assessment and feedback, and will serve as a working definition for the remainder of this paper: "feedback is information with which a learner (or teacher) can confirm, add to, overwrite, tune, or restructure information in memory, whether that information is domain knowledge, meta-cognitive knowledge, beliefs about self and tasks, or cognitive tactics and strategies" (p. 5740). An extensive body of research citing a conceptualization of feedback similar to Winne and Bultler's, has and continues to provide a well supported theory of feedback use, and evidence supporting its efficacy in promoting learning.

Feedback Research

Research on feedback indicates that the summative/ formative distinction is important for explaining why feedback can be both effective and ineffective. Results from numerous meta-analysis largely agree that while summative feedback can be effective, appropriate formative feedback is significantly more effective in promoting positive learning outcomes (Hattie, 2012). The effect of feedback is also highly dependent upon how it is given, the feedback itself, the level it is directed at, and the intention of the feedback provider (Hattie & Timperley, 2007). Unfortunately providing appropriate

feedback requires knowledge and practice for teacher and student (Hattie, 2012). Numerous books have been published on how to use appropriate feedback practice (i.e. Marzano & Laboratory, 1998; Petty, 2006), but this paper will adopt a philosophical approach and explore the writings of Vygotsky and Wittgenstein to determine what light they may shed what ‘appropriate feedback’ might look like.

Lev Semyonovich Vygotsky (1896-1934)

Background

Vygotsky was first a teacher, and later became a pioneering psychologist in developmental psychology, child development, and education. His writings have proved influential in education and have formed the core of socio-cultural theories of language learning. He introduced the role of tool use in mediating cognition to demonstrate how language and cognition are closely linked. Just as physical tools help alter our external environment, linguistic tools such as language, reading and writing, act inwardly and change our mental operations, and the ability to self-direct and self-regulate (Renshaw, 1992). Vygotsky viewed language the most important tool of mediation. It develops through socialization, which it turn supports higher cognition, and in turn promotes more learning: “...social interactions do not simply elicit pre-formed functions, they literally form the infant’s psychology” (Ratner, n.d.: 13). In his well-known “genetic law of development” he emphasizes this primacy of social interaction in language development, and by extension, human development: “All higher psychological functions are internalized relationships of the social kind, and constitute the social structure of personality” (Valsiner, 1997, p. 67).

Language and Learning

According to Vygotsky, language provides a path by which knowledge can move from the society to the individual: a re-interpretation of Piaget’s notion of knowledge internalization, and language develops through verbal interaction with more proficient members society: as a need to communicate

with and understand more knowledgeable people. (Wertsch, 1985), writing on Vygotsky noted: "...social interaction necessarily presupposes generalization and the development of word meaning ...". Language then can be leveraged for further and deeper learning, about language and other tools of mediation such as reading and writing. For (Vygotsky, 1986), the flow of knowledge from the society to the individual is mirrored in speech: As the individual gains mastery over a concept it becomes internalized. Social language is transformed, initially into inner speech, and further into verbal thinking (Ch. 7).

Vygotsky also developed the zone of proximal development (ZPD) to describe the difference between that which can be learned alone, and that which is possible to learn with assistance. The ZPD is a particular individual's learning potential at a particular point in time. The lower boundary represents the most the learner can learn alone. The upper limit is what can be learned with instruction. What makes accessing the ZPD different is that its size and location of is in constant flux, and dependent upon the individual and the instruction they are receiving. Skilled instruction, using one, or a variety of techniques, including scaffolding, dialogue, feedback, and dynamic assessment can assist the learner in accomplishing more than would be possible alone or with a less skilled interlocutor.

Appropriate Feedback

Upon entering school learners enter a new environment that may or may not correspond with prior experience. There are also new sources of mediation: the teacher, other students, and other resources in classroom. However, in order to ensure learning occurs in this 'new society' three conditions (in which feedback may be influential) need to be met: 1) There must be adequate opportunities for social interaction as this is the primary avenue of learning. Seen from a Vygotskian perspective, any information available during these social interactions would constitute appropriate feedback. 2) Learners need to be able to use the tools available for mediation. Appropriate feedback is of critical importance here for teacher and student. It will provide in-

formation learners can use to access the tools of mediation, and the interaction it provides can be used by the teacher to better understand learners and accurately locate their ZDP for further learning. 3) Feedback has to be the appropriate level as learning only occurs within the learners ZDP. Examples of suitable feedback at this level may include scaffolding, the setting of learning goals or instruction on how to correct prior errors. This kind of feedback goes far beyond purely summative feedback.

The unsuitability of summative feedback within a Vygotskyian perspective for learner and teacher is clear. It provides almost no social interaction or mediation for learning, and provides little information, beyond indicating what students don't understand, that the teacher can utilize in helping students learn. Formative feedback is much more consistent with Vygotsky's views on learning. It supports more interaction, and provides more information which can be used to mediate learning. Furthermore, it provides an opportunity for teachers to gain a better understanding of the ability of each student and allows for more instruction allowing the student to learn more effectively. The suitability of formative assessment is also reflected in the recent development of dynamic assessment in which formative assessment occurs in tandem with instruction (Lantolf & Thorne, 2006).

Ludwig Josef Johann Wittgenstein (1889-1951)

Background

Wittgenstein, perhaps the most influential philosopher of the 20th century, often worked as a school teacher (before returning to philosophy). He wrote little, but his writings have been very influential in the philosophies of math, the mind, and language. His early writing was concerned with the logical underpinnings of language, but his later writing, of which will be the focus in this paper, was more concerned with how language functioned. The *Philosophical Investigations* is structured around a series of dialogical thought experiments in which the reader is asked to engage. Potential answers, or questions are then introduced, and responded to by Wittgenstein. While it is undocumented, the structure of the *Investigations* appears to be traced back

to his teacher training associated with the Austrian School Reform Movement. The structure of the Investigations, similar to the tenets of Austrian School Reform, reject rote learning, and promote the development of curiosity, independent thought and autonomous learning (McGinn, 1999). These are values that are alive today in the principles underlying the use of formative feedback in education.

The Philosophical Investigations (Wittgenstein & Anscombe, 1972)

Wittgenstein's Investigations views language as socially constructed "form of life" (Wittgenstein, 1972, p.90), but is also concerned with demonstrating difficulties inherent in language use, meaning and understanding. One causal factor for this is that word meaning emerges from the way the word is used: "...the origin and primitive form of language is a reaction (p. 228), and not in reference to any physical or mental representation. Words then, can therefore have multiple, often disparate, meanings. In support of this idea Wittgenstein introduces the idea of "family resemblance" in order to explain their interrelatedness. "Language games" is another concept introduced in the Investigations to explain the relatively fluid way words are used to convey meaning. While the term not explicitly defined, it is presented as an activity in which the learner uses language more as a process than a product or source of knowledge: When faced with a seemingly illogical response the interlocutor should be wary: "It called our attention to (reminded us of) the fact that there are other processes, besides the one we originally thought of, which we should sometimes be prepared to call "applying the picture of a cube"" (p.140)

Learning and Appropriate Feedback

According to Wittgenstein, language learning, can assume numerous forms: In the beginning "A child uses such primitive forms of language when it learns to talk. Here the teaching of language is not explanation, but training." (p.5). Language teaching can also adopt different goals: "Teaching which is not meant to apply to anything but the examples given is different from that which 'points beyond' them." (p.209). Furthermore, other features of lan-

guage appear to be un-teachable: “What would it be like if human beings shewed no outward signs of pain (did not groan, grimace, etc.)? Then it would be impossible to teach a child the use of the word ‘tooth-ache.’” (p.92). Judged from these examples, and the Investigations as a whole, learning, according to Wittgenstein, is obviously possible: It is the underlying justification for the Investigations. What remains known only to the reader however, is how successful any form of learning will be. His examples of teaching episodes, and the distinction he raises between language and private language, indicate that the more explicit instruction becomes the less room it provides for interpretation, resulting in a more predictable response. However, the format of the book, and the lack of concrete conclusions within it, signals the more value he places on individuals generating their own conclusions. It’s clear he wants us ‘out of the bottle’ (p.309), but the learner is left to define what that bottle might be.

Wittgenstein’s philosophical approach to language and instruction makes it difficult to know with certainty how well two individuals can understand each other, which questions the effectiveness of formative feedback. This however, is not offered as an excuse to stop trying. Rather it is a challenge to make the teacher-learner bond stronger: “What is internal is hidden from us.”—The future is hidden from us. But does the astronomer think like this when he calculates an eclipse of the sun?” and “If I see someone writhing in pain with evident cause I do not think: all the same, his feelings are hidden from me.” (p.225). It would seem once again that Wittgenstein is emphasizing the process over the product, though Wittgenstein cautions the effort still needs to be made with a hope of success, writing: “It is not impossible that it should fall to the lot of this work, in its poverty and in the darkness of this time, to bring light into one brain or another—but, of course, it is not likely” (p. iiiv).

Another approach to asking how Wittgenstein would define appropriate feedback is to consider the form in which the Investigations are written, and the engagement Wittgenstein asks from his reader. The discursive, explora-

tory nature of the book appears to support the supposition that summative evaluation is insufficient for learning. As it lacks information being in effect the assessor's private language. This leaves most learners unclear about intentions underlying the feedback and reducing its effect on learning. Throughout the Investigations, questions are often met with further questions, encouraging the reader to consider and reconsider their ideas in light of any new information presented. Thus, *The Investigations*, in content and form, demonstrate that feedback, according, should be as formative.

The Philosophical Investigations are fundamentally an exploration into the ability of language to promote further understanding. Its discursive style indicates that Wittgenstein would likely engage in an equal amount of exploratory feedback when teaching in order to promote the similar thinking and learning in his students. The introduction expresses this clearly: "I should not like my writing to spare other people the trouble of thinking. But, if possible, to stimulate someone to thoughts of his own." (p. viii). His appeals for empathy, even when comprehension might be impossible, provide further evidence that his teaching philosophy encourages a large amount of interpersonal communication. This with in the aim of fostering mutual understanding between teacher and pupil; and the values he learned when becoming a teacher: independent thought and autonomy. These ideas are also shared by most modern Social-Science feedback research.

Conclusion

It is clear from the writings of Vygotsky and Wittgenstein, that both are strong proponents of increased teacher- student interaction. Both argue that this interaction goes well beyond a simple yes or no, a comment, or the stating of a grade. This is perhaps an unsurprising conclusion, when one considers their experiences as teachers, and that both are seen as adopting a social-constructivist approach to learning. What is more interesting is the nature of the teacher-student bond that is evident in their writings. Appropriate feedback for Vygotsky, would likely be initially focused on determining the

parameters of the student's ZDP which would require the teacher to be very analytical in providing good feedback. Once a student's ZDP was determined the feedback would then become more formative. For Wittgenstein however, teachers would not need to be so responsive to their student current learning state in order to provide formative feedback as all interaction is formative in nature, though the student's expectations of learning might not need to be addressed. Also of concern for students of Wittgenstein might be the level at which the feedback was directed. Would it be appropriate? This is a difficult question, but if the feedback was provided at anything like the language contained in the Investigations it might be at a level far above that of most students.^k Wittgenstein was, according to contemporary reports, a passionate and committed teacher, but occasionally difficult to understand. In conclusion, while both writers support the need for formative feedback, they have different theoretical justifications for it which effects the feedback they might provide. Vygotsky, seeing feedback as an essential part of interaction because it provides opportunities for the learner to learn, and for the teacher to better understand the learner, would provide more student centered formative feedback. Conversely, Wittgenstein seeing feedback as having the potential to close the distance of understanding between individuals would provide formative feedback to further this goal. While both writers might formulate feedback differently, neither would be satisfied with providing learners with only superficial or summative feedback. This is an approach to feedback that we, as teachers, would benefit from adopting in supporting our students' learning.

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