

Simulated Stock Portfolios in Business German Courses: A Constructivist's Approach

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Learning is interactive when learners are actively engaged in a variety of activities, and along with their peers and teachers, they are co-constructors of knowledge. The learning environment provides a sense of learning community within which participants collaborate with others to negotiate and share meanings. Chamberlain & Vrasidas (2001)

The stock portfolios described in this article are for use in a Business German course, typically in a fifth semester course, and were developed for courses at the University of Central Florida, in Orlando, Florida. Elements of the creation of stock portfolios can be spread out throughout the semester and a timeline can be established according to the chapters in the primary Business German text. An important advantage in constructing simulated stock portfolios is that they act as a creative supplement to a text by providing an authentic business situation, mitigating the problem of Business German texts becoming quickly outdated, as stock market portfolios are inherently current due to real-time and hypermedia technology. Additional benefits to creating stock portfolios include the further development of the reading, writing, and listening skills necessary for business, while also facilitating the participants' practical, real-world, oral skills as they regularly present their projects. The wide set of skills that are developed by the students over the course of this project are representative of the benefits a "constructivist" methodology brings to the classroom. In essence, constructivism shifts the emphasis away from a teacher-centered lecture to a student-centered learning activity. In other words, by developing stock portfolios in the Business German class the students become "co-constructors" of their knowledge about the stock market, as well as many other aspects of business in Germany, thereby expanding and making current the typical material commonly presented in Business German texts.

The eighteenth century philosopher Giambattista Vico is credited with conceptualizing the philosophy of "constructivism" in the learning process. Vico maintains that learners learn best when they have taken part in constructing their own understanding. As explained by Conrad & Donaldson (2004) the key assumptions of a constructivist model are that:

- 1) Knowledge is constructed from experience
- 2) Learning results from a personal interpretation of knowledge
- 3) Learning is an active process in which meaning is developed on the basis of experience and
- 4) Learning is collaborative with meaning negotiated from multiple perspectives (5).

As a result of participating in the construction of a simulated stock portfolio, the students are placed in the position of becoming active, rather than passive learners, as they construct their own learning environment.

The incorporation and integration of simulated stock portfolios into a Business German curriculum helps to provide both current and supplemental materials to enhance

topics which commonly appear in Business German texts. Because this project supplements, many of the subjects which appear throughout the semester/year, it is well worth the effort by the instructor to incorporate such a project into their course. Looking at the typical thematic units represented in commonly-used texts will further clarify this point. Four well-known and commonly used Business German texts are: Gudrun Clay's *Geschäftsdeutsch: An Introduction to Business German* (1995), Michael Hager's *Deutsch in Berufsalltag* (2006), Paulsell, Gramberg, and Evans' *German for Business and Economics: Band 2-Die Betriebswirtschaft* (2000), and C. Conlin's *Unternehmen Deutsch* (2000). It is interesting to note that the mention of *die Börse* as a unit in itself is only mentioned in Hager's *Deutsch in Berufsalltag* (173-187). However, each of these books discusses the geographical location of German companies, i.e. *Standort*, for example, as well as the location of natural resources in Germany. After researching their companies and while constructing their portfolios, the students become intimately familiar with the location of their companies, as well as which natural resources are needed for production. Further topics found in the text can be addressed, for example, when a discussion of the various trade fairs, or *Messen*, their companies attend also becomes more relevant to the students' research. Various legal structures, or *Rechtsformen*, are also typically addressed in Business German texts. When constructing portfolios consisting of companies listed on the DAX, the students see first-hand how public stock companies, or *Aktiengesellschaften*, compare in structure to other legal entities in Germany. Marketing and advertising strategies can be highlighted in reference to the chosen companies and by looking at specific industry sectors. Another topic that commonly appears in Business German texts is the role of banking in Germany, which is logically connected to discussions of the stock market, or *Börse*. Finally, students can be asked to "apply" for positions at one of their chosen companies by writing a letter of interest and developing a resume, thereby creating an authentic application, or *Bewerbung*, situation. In the process of creating simulated stock portfolios, the topics presented in the Business German text are enhanced upon and made current as the students construct their simulated portfolios.

Pedagogically, the instructional possibilities and cognitive impact of utilizing simulated stock portfolios should not be underestimated. The use of Web-based instruction has grown dramatically over the last ten years in the foreign language classroom, specifically with the use of "hypermedia," such as real-time stock quotes and video. Hypermedia helps to enhance the implementation of simulated stock-portfolios and, as related by Miller and Miller (2000), "enables representations of real-world contexts that produce authentic learning situations" (157). The internet offers features that are both synchronous and asynchronous for the students participating in this project. Additionally, the internet provides opportunities for the foreign language learner to communicate via chat-rooms and blogs when conducting research on the companies in their portfolios. There are numerous "Youtube" videos available on either the companies themselves, ads for example, and/or the stock market in general in Germany (see appendix A for specific resources). With these hypermedia features, the students' stock market portfolios become a living, breathing organism that the students are actively creating, while building upon a developing knowledge base of how business is conducted in Germany. Furthermore, the important benefit of increasing student motivation by using hypermedia is another reason why creating such a project is worthwhile. As identified by

Grabowski and Curtis (1991), the four motivational factors that are enhanced in a multimedia, web-based project are as follows:

- (1) Interest in or attention to the information and the technology;
- (2) Perceived relevance of the information;
- (3) Self-confidence in the ability to access and use the information; and
- (4) Satisfaction resulting from successful access to and usefulness of the information (10).

Clearly the use of hypermedia as a learning tool enhances motivation, as the students see the real-world relevance of their project.

Historically, the simulated stock portfolio has been most commonly utilized in both undergraduate and graduate business courses. The intention of such simulations is to further develop mathematical and analytical skills, while developing an overall understanding of how business functions. It only makes sense to incorporate such a project in the Business German class, as the typical course analyzes business principles and practices in Germany. Foster and Stine (2006) extol the benefits of using such simulations in MBA programs at the Wharton School Business, for example (53). At Wharton the class is divided into teams of four, giving each of the four team members clearly prescribed roles (Foster and Stine 54). The investment team is then allotted the “virtual” sum of \$100,000 (Foster and Stine 54). Similarly, in the Business German setting, the students can be allotted 100,000 € for their simulation. The companies represented by the teams are the thirty companies listed on the DAX. Other indices are not added into the mix, as the ever-changing nature and consolidation of the European stock markets would probably create unnecessary complexity for the students. Furthermore, shorting stocks or investing in Hedge funds is not allowed, for example, as they are for more sophisticated investors. One important caveat provided by Foster and Stine to keep in mind is that the “students keep better records” when told in advance that they must maintain accurate data to be presented and collected on a regular basis (54). From the beginning the students are instructed to maintain careful records in an organized portfolio which at the end of the course will reflect the depth and breadth of what they have learned.

The design of such a large project spanning a semester, or two, when possible, is of utmost importance in order to increase the change of success for the students. D. Jonassen (1991) has isolated a number of design principles that should be considered when developing any constructivist project. The simulated stock portfolio meets each of Jonassen’s design principles, allowing the students to construct their own learning environment, while enhancing and fortifying the topics covered and materials presented in a Business German text. To begin with, according to Jonassen, the students must be able to “create real-world environments that employ the context in which learning is relevant.” A stock portfolio clearly simulates a real-world scenario, while integrating many topics relevant to Business German. Jonassen’s next point is that the project must “focus on realistic approaches to solving real-world problems.” The portfolios allow the students, individually, and as a group, the opportunity to develop varied and realistic approaches to problem solving as they navigate through the learning process. Jonassen’s third point describes the role of the instructor in the project: “The instructor is a coach and analyzer of the strategies used to solve these problems.” The instructor acts as both the coach and facilitator, while the students develop advanced linguistic skills through the

use of “scaffolding.” *Scaffolding*, according to constructivist theory, is a process of guiding the learner from what is presently known to what is to be known. Students, in the process of scaffolding, perform tasks that would normally be slightly beyond their ability with assistance and guidance from the teacher. Business German students build skills in gradual steps, beginning first with specialized vocabulary, and then with higher-level concepts such as comparing financial information etc. Appropriate teacher assistance can support student activities, while still enabling them to develop both individually and within their group. Point four applies to the interrelatedness of a stock portfolio project, as the students explore not only their own company portraits, but how they are integrated into the other topics covered in their texts, such as *Messen*, *Standortfaktoren* and *Marketing*: “Stress conceptual interrelatedness, providing multiple representations or perspectives on the content.” Jonassen’s fifth point relates to outcome upon completion of the project. As the students construct their own portfolios, they must learn to negotiate, both within their groups and with their instructor, providing yet another real-world business scenario as described in point five: “Instructional goals and objectives should be negotiated and not imposed.” Point six comes into play as the students are not only evaluated by their instructor, but by their peers as well through the use of rubrics, helping to define the expectations of the students throughout the semester (see Appendix B): “Evaluation should serve as a self-analysis tool.” Point seven addresses the students developing views of how the business environment in Germany is both connected to, and affected by, world events and culture: “Provide tools and environments that help learners interpret the multiple perspectives of the world.” Finally, point eight revisits the idea of utilizing rubrics, in this case for both self-analysis and evaluation by their peers: “Learning should be internally controlled and mediated by the learner” (11-12).

Of course for the Business German instructor who is unfamiliar with the way the stock market functions, and/or the specific terminology associated with it, there are many ways to act as the facilitator of such a project. The acquisition of knowledge related to the development of stock portfolios and finance is readily available on many websites both in America and Germany (see Appendix A). For example, a PDF file covering a “Basiswissen für Einsteiger” can be found on the Viennese Stockmarket’s website. Further materials can be found on their website, such as “Wie funktioniert die Börse?” and “Die Geschichte der Börse.” The sources, often provided in both English and German, provide professional, yet readily understandable, explanations of how to become acquainted with how *die Börse* functions.

Procedure:

The success of this project relies is reliant on a virtual stock market game, or *Boersenspiel*. The best website for a free, simulated *Boersenspiel*, in my experience, can be found on the *Frankfurter Allgemeine’s* Website: <http://boersenspiel.faz.net>. An additional benefit of using it, for both the instructor and the students, is that this website has a wealth of information, such as an index of stock market terminology and a discussion of different types of investment. While there are other simulated portfolio games available in the internet, they are often neither free, nor are they as user-friendly. Not only does this site offer the chance for individuals to play alone (which could be useful for an independent study), but also contains a relatively new feature which has been added to the game: the group function, or *Gruppenfunktion*. This feature allows the

students within a class to play in teams against each other, or against players outside the class-often times in Germany.

The teams build their portfolio with five companies that they have randomly drawn from a deck of cards with the names of the companies provided by the instructor. Because the class is only working with the thirty top companies in Germany, that is those companies represented on the DAX, multiple copies of each company must be provided. The companies are distributed with both the company's name and trading symbol. Company portraits, or "Firmenporträts," are available on the *Frankfurter Allgemeines's* website <http://www.faz.net/d/invest/list/firmenportraet.aspx>, with links to company websites. The random nature of the distribution of companies by means of a draw prevents the impression that some students are given the more successful, lucrative stocks. Since the teams have only five stocks to work with, they must decide how to allocate their funds and construct their portfolios by deciding how much stock they would like to purchase with their 100,000 €. Obviously since some teams end up with the same companies, it is how they choose to allocate their funds that inevitably differentiates one team from another.

Next, the instructor should demonstrate to the students how to log on and register for the simulation game, perhaps using a student in the class as an example. It has been my experience that in the fifth semester of German the students have no problem following an explanation in German of how to register. Before moving on to create the stock portfolios, the instructor should introduce the following basic stock portfolio terminology and essential grammatical structures. While much of this vocabulary will be new and is specific to the stock market, some of the verbs, for example, will already be familiar to the students who have already had intermediate German at the college level.

Basic Stock Market Vocabulary:

The Wiener Börse provides without cost a PDF file of important and easy-to-understand stock market definitions entitled, "Börse-begriffe" on their website (see Appendix A). Examples of typical stock market vocabulary are: *die Aktien, die Prognose, der Börsenmakler, die Veränderung, das Sinken, der Anstieg, die Schwankung*, etc.

Adjectives:

positiv, negativ, kurzfristig, langfristig, etc.

Verbs:

sich erhöhen, sich steigern, steigen, zunehmen, sich verringern, sich vermindern, abnehmen, fallen, schrumpfen, sinken, senken etc.

Terminology Associated with Graphic Representations:

A complete list of the terms needed to describe diagrams can be found on the IIK Düsseldorf website under "Redemittel zur Beschreibung von Schaubildern, Diagrammen und Statistiken" (see Appendix A). Examples include: *an der Spitze liegen/stehen, an erster/zweiter/dritter/letzter Stelle liegen, an dritter Stelle folgen, auf Platz zwei liegen/stehen, Thema des Schaubildes/der Grafik ist..., Das Schaubild gibt Auskunft über..., Die x-Achse zeigt...* etc.

Making Comparisons using the Comparative and Superlative Forms:

*so...wie, je...desto, höher...als, im Gegensatz zu..., mehr/weniger als..., besser/schlechter als..., kleiner/grösser als..., höher als...*etc.

Other Forms of Comparisons:

Im Vergleich zu 2007....ist die Zahl der...um % höher/niedriger, Im Gegensatz zu 2007...ist der Anzeil der...um % gefallen, Der Anteil von....beträgt...., Der Anteil von...liegt bei....%, etc.

With the plethora of free information readily available in the internet, there should be no additional costs for constructing simulated stock market portfolios.

At this point the instructor can choose a company as an example and demonstrate to the students how they can access information in order to research their stocks. For example, BMW has a very informative website. Next, have the students independently research the particular companies that they are investing in. Fortunately, the companies listed on the DAX have websites which are in both German and English, (should the students run into difficulties while researching their companies). Next, the students can request materials from the companies, either via e-mail, or in German business letter format. This exercise facilitates the development of their writing skills and provides authentic examples for business writing.

The groups/teams must then decide the number of shares of each of their five companies they will purchase. During this process they must attempt to express themselves utilizing the newly acquired stock-market terminology. After they have decided on how they will allocate their funds, they can give an initial presentation with an overview of the companies they have in their portfolio and their investment choices. Should teams overlap with regard to the companies in their portfolios, the other teams who share the same companies can provide any additional information not yet discussed by their classmates. Students should then be required to prepare an initial spread sheet which represents their starting data, i.e. how much they have invested in each of the companies in their portfolios (see appendix C for example) and any changes which have occurred.

Conclusion:

By utilizing a simulated stock portfolio as a supplemental project in the Business German classroom to enhance the core text, the students benefit from the learning theories of the constructivists. Constructivists emphasize the creation or construction of knowledge which takes place when students become responsible co-creators of their learning process. Multiple perspectives, authentic activities and real-world environments are just some of the themes that are frequently associated with constructivist learning and teaching. Scaffolding provides, in the case of language learning, the support which enables the student to move from simple concepts to the more complex. The technological elements that are inherent in the creation of a stock portfolio, such as real-time technology and the use of hypermedia, serve to further enhance learning and have been shown to increase motivation. During the process of creating a simulated stock portfolio the students learn to integrate language skills in a practical, real-world scenario. Throughout the course the students are required to communicate utilizing meaningful linguistic skills that are relevant to conducting business in Germany. The students represent, in both written and oral form, their long-term gains or losses through the use of newly acquired vocabulary and their analysis of diagrams and trends. Finally, by working in teams, analyzing data and presenting outcomes, the students' stock portfolios can act

as an important way in which students pull together and synthesize the information they have learned.

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Appendix A: Useful Websites

- Boerse.de: <http://www.boerse.de/>
- Boersen-Einmaleins: <http://boerse.ard.de/>
- Boerse erklart (PDF): http://www.chr.mergler.bnv-bamberg.de/finanzen/quarks,_boerse2.pdf
- Boerse Muenchen: <http://www.boerse-muenchen.de/ueberuns/Chronik.html>
- Boerse Online: <http://www.boerse-online.de/> , Boerse fuer Schueler <http://www.boerse-online.de/wissen/planspiel/490640.html>, and Boerse Online Videos/Podcasts: <http://www.boerse-online.de/termine/tv/481961.html>
- Boersianer: <http://www.boersianer.com/>
- Deutsche Börse Group (German and English): http://deutsche-boerse.com/dbag/dispatch/de/kir/gdb_navigation/home
- Euroland (German and English): <http://www.euroland.com>
- FAZ's Boersenspiel Simulation and Boersenlexicon: <http://boersenspiel.faz.net/>

also History of the Frankfurter Boerse: https://deutsche-boerse.com/dbag/dispatch/de/kir/gdb_navigation/about_us/20_FWB_Frankfurt_Stock_Exchange/70_History_of_the_FWB

Financial videos on n-tv.de: <http://www.n-tv.de/784315.html>

Lexikon (PDF): http://www.rb-ingolstadt.de/etc/medialib/I210M0064/pdf-dateien.Par.0007.File.tmp/ebroking_b%C3%B6rsenlexikon.pdf

OnVista (Market Analysis, Free Industry Sector Reports, TV Reports/Livestreams): <http://aktien.onvista.de/> and Newsletter: <http://service.onvista.de/email.html>

Stock Market Terminology in German: wirtschaftsdeutsch@iik-duesseldorf.de

Exercises: <http://www.wirtschaftsdeutsch.de/materialboerse/spiel-sag-es-anders-boerse.doc>

Swiss Exchange (German and English): http://www.swx.com/information_de.html

Think Quest: "How to read a stock listing" (in English): <http://library.thinkquest.org/3298>

Virtual Stock Market Game (in English) from Market Watch: <http://vse.marketwatch.com/Game/Homepage.aspx>

Web-DE: Boerse: <http://boerse1.web.de/>

Wiener Börse Glossar (PDF): <http://www.wienerborse.at/mmdb/5/3/glossar.pdf>
and <http://www.wienerborse.at/beginner/basics/>, 1 X 1 Boerse (PDF) <http://www.wienerborse.at/beginner/basics/funktion.html>, Multimedia Videos: ex. „Der Handel der Börse,“ „Wie werde ich Aktionär?“ „Historische Börse-Crashes“ <http://www.wienerborse.at/beginner/multimedia.html>, Guided Tour „Der Kapitalmarkt“ <http://www.wienerborse.at/beginner/teacher/kapitalmarkt/index.html>,

Yahoo Deutschland Finanzen: <http://de.finance.yahoo.com/>

Appendix B: Bewertungsmatrizen

<http://www.lehrer-online.de/url's/schuelerreferate>

Bewertungsmatrix für die Präsentation						
Punkte	100-92	91-81	80-67	66-50	49-30	29-0
Aufbau und inhaltliche Struktur - Sachliche Gliederung - Inhalt - Zielorientierung	optimal angeordnete Gliederung und logisch richtige Darstellung, zielgruppenorientiert	zweckmäßige Gliederung und sachlich richtige Darstellung, zielorientiert	sinnvolle, jedoch nicht optimale Gliederung, Darstellung im allgemeinen logisch, Zielorientierung vorhanden	unsachlich, leichte Fehler in der logischen Darstellung, Zielorientierung erkennbar	strenge Gliederung erkennbar, teilweise logische Fehler, Zielorientierung kaum erkennbar	unsystematisch, unlogisch, unvollständige Orientierung vorhalten, keine Zielorientierung
Sprachliche Gestaltung - Ausdruckswahl - Satzbau - Stil	Ausdruckswahl, Satzbau und Stil vorbildlich	deutliche Ausdruckswahl, guter Satzbau und Stil	Ausdruckswahl teilweise überzeugend, mehrheitlich guter Satzbau, klarer Stil	leichte Schwächen in der Ausdruckswahl, teilweise fehlerhaft, teilweise stilistische Fehler	schlechte Schwächen in der Ausdruckswahl, große Fehler im Satzbau, stilistische Fehler	unverständliche Ausdruckswahl, große Fehler im Satzbau, geringer Wortschatz
Zielgruppengerechte Darstellung - Visualisierung - Körpersprache	durchgängig zielgruppengerecht, prägnant, informativ, optisch ansprechend	zielgruppengerecht, prägnant, informativ, inhaltlich angemessen	überwiegend zielgruppengerecht, meist passend zum Inhalt	inhalteorientiert, nicht zielgruppengerecht oder schlecht zum Inhalt passend, aber trotzdem verständlich	im allgemeinen nicht zielgruppengerecht, schlechtes Bild zum Inhalt passend, so dass die Verständlichkeit leidet	Visualisierung falsch oder fehlend, vorwiegend unangemessene Darstellung

Appendix C: Example of a Student Spreadsheet

Adidas

Performance							
Datum	Heute	1 Monat	3 Monate	6 Monate	1 Jahr	2 Jahre	3 Jahre
Eröffnung	46,50	44,99	44,89	44,00	41,10	36,85	27,78
Hoch	47,66	46,05	46,15	47,76	47,76	47,76	47,76
Tief	46,40	43,40	41,50	41,50	35,30	35,19	27,63
Entwicklung	3,08%	1,62%	6,31%	8,37%	10,75%	25,29%	65,35%
Umsatz in Stück	4 Mio.	35 Mio.	105 Mio.	259 Mio.	585 Mio.	1 Mrd.	1 Mrd.
Umsatz in €	169,43 Mio.	1,58 Mrd.	4,62 Mrd.	11,55 Mrd.	24,30 Mrd.	43,32 Mrd.	57,57 Mrd.
Ø Umsatz/Tag	169,43 Mio.	68,57 Mio.	69,93 Mio.	88,20 Mio.	95,67 Mio.	84,78 Mio.	74,96 Mio.

