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ABSTRACT

The Learning Cycle, a popular medium for teaching science lessons, can be used to teach a language arts lesson on acronyms, an appropriate skill topic for students in grades four through six. Acronyms are fascinating words that can challenge students to solve the puzzle of what the letters stand for. The three-phase Learning Cycle arranges teaching steps to correspond to the way in which students learn new material--the exploration phase involves assimilation and disequilibrium; the invention phase allows students to revise their thinking to allow the new information to fit; and the expansion phase provides practice and repetition. As applied to acronyms, the exploration phase might involve students brainstorming lists of acronyms, looking up definitions, and discussing similarities and differences among acronyms, initials, abbreviations, and contractions. During the invention phase, students can discuss the reasons for and uses of acronyms, and compile lists of acronyms derived from new technologies. During the expansion phase, students can come up with their own acronyms for clubs, associations, or government agencies, and students can create combination names for places and explain the origin of their invented place name. This language arts lesson has proved successful for a language arts teacher and her students. Includes a 102-item list of acronyms (some with approximate date of first usage) arranged into categories.) (RS)

Using the Learning Cycle to Teach Acronyms, a Language Arts Lesson

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RUNNING HEAD: Acronyms

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The Learning Cycle has been a very popular medium for teaching science lessons (Nickerson, 1984; Renner, 1986), but it has a sequence of steps that can also be used to teach a language arts lesson. The pattern and organization of the learning cycle could make a language arts *skill* lesson more meaningful than the traditional method of inform and practice. In order to demonstrate the use of the learning cycle in language arts, a lesson on acronyms will be used as an example.

Acronyms

Acronyms are an appropriate skill lesson topic for students in grades 4 through 6. Acronyms are fascinating words that can challenge students to solve the puzzle of what the letters stand for. They are an easy and interesting first step to studying word derivations. Acronyms can also be surprising - did you know that "cop" and "laser" were acronyms? Acronyms can be used to integrate language arts with other subject areas such as social studies (place names, famous people, organizations, and government agencies) and science (new technolcgies, medicine, chemicals). Perhaps most importantly, acronyms provide the opportunity for students to be creative in inventing their own acronyms

and appreciating the cleverness and usefulness of those invented by others.

The Learning Cycle

According to cognitive psychologists, there seems to be a definite pattern to the way in which students learn new material. The Learning Cycle takes this into account and arranges teaching steps to correspond to this pattern of student learning. The learning cycle was originally developed by Robert Karplus as a teaching plan for the successful Science Curriculum Improvement Study (SCIS) (Karplus, 1974). This learning technique is based upon Jean Piaget's three-part developmental learning model of assimilation, accommodation, and organization (Renner and Marek, 1990). Through this three phase learning cycle, students are led to construct their own knowledge with guidance from the teacher.

The first step, called the *Exploration Phase*, involves assimilation and disequilibrium. Here, students examine the new concept, in this case the concept of acronyms, and relate it to previous experiences with different kinds of words (assimilation). New concepts that don't fit in with old ideas lead to a questioning of old thinking patterns (disequilibrium), thus making the mind ready to accept new learning. The Exploration Phase provides an opportunity for the teacher to diagnose what the students know about acronyms, to focus their attention on the

study material, and to relate the lesson to previous experiences. Ideally, the Exploration Phase will confront the students with new information that will cause them to question and revise old ideas. Although most students are familiar with acronyms like USA and TV, the fact that words such as laser and radar are acronyms will surprise them. This will cause them to reevaluate their previous thinking about the words, thereby preparing their minds to accept new information.

In the next Learning Cycle phase, the *Invention Phase*, students revise their thinking to allow the new information to fit (accommodation). New concepts are explained and understood during this phase. Students classify and organize the new concepts into their mental thinking schemes and make connections between the new ideas and older previously learned ideas. During this invention phase, the teacher directs the students to a more complete understanding of acronyms by providing explanations and more examples.

The final phase of the Learning Cycle, the *Expansion Phase*, provides practice and repetition. This allows students to increase and reinforce the connections between the new idea and preexisting ideas in their brains, thereby insuring that the new concept is truly learned. New concepts are also expanded and related to other areas and concepts (organization). The Expansion Phase begins by providing students with

guided practice in their new skills with acronyms. The teacher should make a final check for understanding before allowing the students to work independently. The teacher should then assign an activity that will be accomplished without teacher supervision. Complete the lesson by summarizing what has been learned about acronyms.

The Learning Cycle Applied to a Lesson on Acronyms

Exploration Phase

Involve your students in the following activities:

1. Write the following acronyms on the chalkboard or overhead projector: TV, AM, BC, USSR, DDT, AWOL, POW, SCUBA, LASER, BASIC, SONAR, RADAR, and SWAT. Ask students to tell what these words all have in common. If students are stumped, ask how the first six are alike. Introduce the concept of an acronym - a word made from the first or first few letters of words in a phrase. Discuss similarities and differences between acronyms, initials, abbreviations, contractions, and other words. Divide the students into small groups and give each group a couple of the above acronyms to look up in a dictionary (or choose others from Table 1). Before class, check to be sure that the students' dictionaries contain the words you choose. Have groups report the derivations of the words they researched.

2. Ask students to brainstorm and suggest as many acronyms as possible.

List these on the board. Provide a few examples from Table 1 as necessary to stimulate further ideas. Be sure the class comes up with a wide variety of acronyms. Then divide the students into small groups and let them devise their own system for classifying the acronyms into categories. Have each group report their system. There is no one correct way for grouping acronyms; accept any reasonable scheme. One way of classifying acronyms is shown in Table 1. Other possibilities include: according to the number of letters in the acronym; the decade in which the acronym originated (see dates in Table 1); and acronyms arranged by parts of speech (nouns, adjectives, adverbs, clauses).

Invention Phase of the Learning Cycle

Involve your students in the following activities:

1. Lead the class in a discussion of the reasons for and uses of acronyms. Have students suggest reasons why names of groups, companies, technological products, and phrases are made into acronyms. Ask students to name instances when the full name or phrase is preferable to using an acronym (for clarity, for legal purposes). When is it likely that an acronym would be used? Some reasons are: when the phrase is repeated many times; when space is limited; for secrecy; when the acronym is quickly and easily recognized - a trademark; or, when the acronym creates a sense of exclusiveness and belonging. Have students find examples of

all of these reasons.

2. Have students look through the yellow pages of a phone book or a magazine such as BusinessWeek and locate examples of acronyms. Ask students to explain what the acronyms stand for and why they are used here.

3. Talk about new technologies (science, medicine, communications) and the new chemicals, equipment, and terminology that technology generates. Discuss acronyms related to technology. Have students form groups and search through computer, medical, and scientific and engineering magazines for acronyms. Have students compile a list of acronyms and what they stand for. Discuss the reasons for using acronyms in these magazines.

4. Provide a closure to the invention phase by redefining acronyms and summarizing the uses of acronyms.

Expansion Phase of the Learning Cycle

Choose from among the following activities:

1. Have students think of acronyms for different clubs, associations and government agencies. Write these on the board or overhead projection and discuss. Have students invent a club and a unique name for the club. Encourage students to be creative with their acronyms - if the acronym spells out a meaningful word related to the club's activities, so much the

better! For example, MADD is the name of the organization Mothers Against Drunk Drivers and "mad" is a statement of their feelings toward the problem. An additional activity would be to assign pairs of students a name of one of the organizations from Table 1 and let them use encyclopedias to research the origin, purpose, and activities of the organization.

2. Provide students with examples of words that are derived from the combination of two words. For example, brunch (breakfast + lunch), smog (smoke + fog), chortle (chuckle + snort), pulsar (pulse + quasar), and Gidget (gadget + midget), flustrated (flustered + frustrated). Ask students to explain how these words are similar to acronyms. Read the poem "Jabberwocky" by Lewis Carroll (Carroll, 1983). Have students point out the made-up words and explain what they might mean (the word "chortle" was originated by Lewis Carroll in this poem). Let students invent a few words of their own by combining two words and using the new word in a sentence. Have other students guess the meaning of the new word and which two words were combined to produce it.

3. Discuss the origin of place name acronyms or similar words such as Tanzania and Pakistan. Let students search state and national border areas on maps and find place names that are a combination of the names of two or more places (For example, Mexicali, Texarkana, and Florala).

Students can also create combination names for places and explain the origin of their invented place name.

4. Show students acronyms of common phrases from Table 1. Ask students to think of a common phrase that they might like to make into an acronym. For example, the teacher might wish to shorten "Please be quiet!" into PBQ or "Get to work" into GTW. Have students take turns telling the acronym they invented and giving clues as to when it would be used. The rest of the class can try to guess what words the acronym stands for.

Conclusion

This language arts lesson using the learning cycle has been proved very successful for me and my students. I hope that other teachers will use their creativity in applying the learning cycle to other language arts lessons.

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Table 1. Some Common Acronyms

Approximate date of first usage follows phrase

Acronyms derived from common phrases

ASAP : A(s) S(oon) A(s) P(ossible)
FYI: F(or) Y(our) I(nformation)
IOU: I O(we) (yo)U 1618
NOYB: N(one) O(f) Y(our) B(usiness)
PS: P(ost) S(cript) 1523
PDQ: P(retty) D(arn) Q(uick) 1875
RSVP: R(epondez) S('il) V(ous) P(lait)
SNAFU: S(ituation) N(ormal) A(ll) F(ouled) U(p) 1941
TGIF: T(hank) G(od) I(t's) F(riday)

Acronyms related to the military or law enforcement

AWOL: A(bsent) W(ith) O ut) L(eave) 1919
BB gun: B(all) B(earing) gun 1874
COP: C(onstable) O(n) P(atrol) 1859
DMZ: D(e) M(ilitarized) Z(one) 1883
MIA: M(issing) I(n) A(ction) 1944
MO: M(ode) (of) O(peration) or M(odus) O(perandi) 1654
POW: P(risoner) O(f) W(ar) 1919
PT boat: P(atrol) T(orpedo) 1941
ROTC: R(eserve) O(fficer) T(raining) C(orps) 1916
SALT: S(trategic) A(rms) L(imitation) T(alks) 1968
SOS: S(ave) O(ur) S(hip) 1910
SDI: S(trategic) D(efense) I(nitiative) 1983
SWAT: S(pecial) W(eapons) A(nd) T(actics)
UFO: U(nidentified) F(lying) O(bject) 1953
VFW: V(eterans) (of) F(oreign) W(ars) 1913
WAC: W(omen's) A(rmy) C(orps) 1943
WAVES: W(omen) A(ccepted) (for) V(oluntary) S(ervice) 1942
WW: W(orld) W(ar) 1909

Acronyms of Organizations

AAA: A(utomobile) A(ssociation) (of) A(merica) 1902
DAR: D(aughters) (of the) A(merican) R(evolution) 1890
FFA: F(uture) F(armers) (of) A(merica) 1928
GSA: G(irl) S(couts) (of) A(merica) 1915
4-H club: H(ead) H(eart) H(and) H(ealth) club 1910
MADD: M(others) A(gainst) D(runk) D(rivers) 1980
NAACP: N(ational) A(ssociation) (for the) A(dvancement) (of) C(olored) P(eople) 1909
NOW: N(ational) O(rganization) (of) W(omen) 1966
PTA: P(arent) T(eachers) A(ssociation) 1897
UNICEF: U(nited) N(ations) I(nternational) C(hildrens's) E(mergency) F(und) 1946

Professions and titles

CPA: C(ertified) P(ublic) A(ccountant)
DDS: D(octor) (of) D(ental) S(urgery)
HIM: H(is or her) I(mperial) M(ajestry)
LPN: L(icensed) P(ractical) N(urse) 1948
MBA: M(aster) (of) B(usiness) A(dministration)

Acronyms associated with communication

BASIC: B(eginner's) A(ll-purpose) S(ymbolic) I(nstruction) C(ode) 1967
BBC: B(ritish) B(roadcasting) C(orporation) 1923
CB radio: C(itizen's) B(and) radio 1959
CD player: C(ompact) D(isk) 1980
PA: P(ublic) A(ddress system) 1923
TASS: T(elegrafnoye) A(genstvo) S(ovyetskovo) S(oyuza) 1925
TV: T(ele) V(ision) 1947
VCR: V(ideo) C(assette) R(ecorder) 1971
ZIP code: Z(one) I(mprovement) P(lan) code 1963

Table 1 Continued

Government Agencies
CIA: C(entral) I(ntelligence) A(gency) 1947
FBI: F(ederal) B(ureau) (of) I(nvestigation) 1935
HUD: H(ousing) (and) U(rban) D(evelopment) 1965
IRS: I(nternal) R(evenue) S(ervice) 1913
NASA: N(ational) A(eronautics) (and) S(pace) A(dministration) 1958

Acronyms of place names
LA: L(os) A(ngeles) incorporated 1850
NYC: N(ew) Y(ork) C(ity) incorporated 1653
PAKISTAN: P(unjab) A(fghan frontier) K(ashmir) I(ran) S(ind) (and) (baluchis)TAN 1947
TANZANIA: TAN(ganyika) (and) ZAN(z)I(b)A(r) 1964
USA: U(nited) S(tates) (of) A(merica) 1776

Acronyms related to time
AM: A(nte) M(eridiem) 1563
BC: B(efore) C(hrist)
PM: P(ost) M(eridiem) 1647
EST: E(astern) S(tandard) T(ime) 1883

Acronyms of businesses
IBM: I(nternational) B(usiness) M(achines) 1924
3M: M(innesota) M(ining) (and) M(anufacturing 1929
NABISCO: NA(tional) BIS(cuit) CO(mpany) 1971
KOA: K(ampgrounds) O(f) A(merica) 1981
GEICO: G(overnment) E(mployee) I(nsurance) CO(mpany)1979

Acronyms of Famous People
FDR: F(ranklin) D(elano) R(oosevelt) inaugurated 1933
JFK: J(ohn) F(itzgerald) K(ennedy) inaugurated 1961
LBJ: L(yndon) B(aines) J(ohnson) inaugurated 1963

Acronyms related to medicine and chemistry
AIDS: A(cquired) I(mmune) D(eficiency) S(yndrome 1982
CAT scan: C(omputerized) A(xial) T(omography) 1975
DDT: D(ichloro)D(iphenyl)T(richloroethane) 1943
DNA: D(eoxyribo) N(ucleic) A(cid) 1944
IQ: I(ntelligence) Q(uotient) 1920
LSD: L(y)S(ergic) (acid) D(iethylamide) 1950
MSG: M(ono)S(odium) G(lutimate) 1929
PABA: P(ara) A(miono) B(enzoic) A(cid) 1943
PCB: P(oly) C(hlorinated) B(iphenyl) 1966
PVC: P(oly) V(inyl) C(hloride) 1927

Acronyms related to science technology
LASER: L(ight) A(mplification) (by) S(timulated) E(mission) (of) R(adiation) 1957
RADAR: RA(dio) D(etecting) A(nd) R(anging) 1941
SCUBA: S(elf) C(ontained) U(nderwater) B(reathing) A(pparatus) 1952
SONAR: SO(und) N(avigation) A(nd) R(anging) 1945

Some other interesting acronyms
ROCOCO: RO(cailles)[rocks] CO(quilles)[shells] (et) CO(rdeau)[cords] 1840
"Jeep" is derived from GP: G(eneral) P(urpose) (vehicle) 1936

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